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ABSTRACT

Four hypotheses concerning the linguistic structure of yes-no questions and their answers are considered as hypotheses relating to the abstract structure of yes-no questions and to this abstract structure in all human languages. The universal base hypotheses are the following: (1) The abstract representation of all yes-no questions includes two disjunctively connected declarative sentences, symbolizable as X or Not-X. (2) The abstract representation includes a component paraphrasable as I ASK YOU TO TELL ME. (3) For a semantic subclass of yes-no questions, those called "biased" ones, the abstract representation includes an additional declarative sentence. (4) Answers and questions are in a member-to-class relationship with each other. Eighty-five languages form the data base against which these hypotheses are tested. The structure of all yes-no questions is shown to be, on some level of representation, complex rather than simple. The underlying X or Not-X structure is shown to be subordinated to a sentence paraphrasable as I ASK YOU TO TELL ME. The underlying structure of tag questions differs from that of neutral yes-no questions since it contains an additional copy of the suggested answer. Evidence is also found to support the fourth hypothesis. (Author/PM)

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SOME CROSS-LINGUISTIC GENERALIZATIONS ABOUT YES-NO QUESTIONS AND THEIR ANSWERS

Edith A. Moravcsik

ABSTRACT

The thesis considers four hypotheses concerning the linguistic structure of yes-no questions and their answers. All four of these claims have been previously made by other linguists. The novelty of this thesis is that it considers these hypotheses as ones relating to the abstract structure of yes-no questions and as ones relating to the abstract structure of yes-no questions in all human languages.

The term "abstract structure" is meant to be in a sense that rests on the assumption that in order to relate properties of linguistic utterances to each other, and thus explain them, utterances must have a representation in the grammar which is different from observable groupings of elements.

The four universal base hypotheses are the following:

1. The abstract representation of all yes-no questions includes two disjunctively-connected declarative sentences, symbolizable as X OR NOT-X.
2. The abstract representation also includes a component paraphrasable as I ASK YOU TO TELL ME.
3. For a semantic subclass of yes-no questions, those called "biased" ones, the abstract representation includes an additional declarative sentence.
4. Answers and questions are in a member-to-class relationship with each other.

The data base against which these hypotheses are tested comes from about 85 languages of the world. Results are the following:

1. Concerning the first hypothesis, evidence from the intonation of yes-no questions is presented to show that the structure of all yes-no questions should be, on some level of representation, complex rather than simple. Various manifestations of an OR word in some types of yes-no questions are taken to be evidence to the fact that this complex structure is disjunctive rather than conjunctive. Furthermore, the presence of NOT words in yes-no questions, the relationship between interrogation, negation and emphasis, and some observations about question-answer relationship show that what is disjoined is an affirmative sentence and its negative counterpart. Rules, however, relating such an abstract representation to be surface structure of yes-no questions are in need of motivation within transformational theory.

2. There is evidence to show that this underlying X OR NOT-X structure is subordinated to a sentence paraphrasable as I ASK YOU TO TELL ME. There is also some support for an alternative theory of question marking whose distinctive characteristics are that it is a discourse-marking theory and it does not assume an underlying OR. In this case, there are reasons to suggest that declarative OR-s should have a conditional base which is thus different from that of interrogative OR-s.

3. There is some evidence to show that the underlying structure of tag questions differs from the underlying structure of neutral yes-no questions in that it contains an additional copy of the suggested answer.

4. Standard answers of various kinds of yes-no questions can be shown to be in a member-to-class relationship with their questions with respect to their above-defined underlying structure.

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1. Introduction - Purpose, Domain, Scope

1.1 Purpose. The purpose of this study is to test four claims concerning the underlying representation of yes-no questions and their answers as possible candidates for language universals.

The first two of the claims that are to be tested here concern the structure of all yes-no questions; the third pertains to the structure of biased yes-no questions; and the fourth is about the structure of question-answer sequences. They are the following:

1. The abstract representation of all yes-no questions includes two disjunctively-connected declarative sentences, symbolizable as X OR NOT-X.

2. The abstract representation also includes a component paraphrasable as I ASK YOU TO TELL ME.

3. For a semantic subclass of yes-no questions, those generally called "biased" ones, the abstract representation includes an additional declarative sentence.

4. Answers and questions are in a member-to-class relationship.

The term underlying representation is meant to be taken in a sense that rests on the assumption that in order to relate properties of linguistic utterances to each other, and thus explain them, utterances must have a representation in the grammar which is different from observable groupings of elements.[1] Claims made about underlying structure are therefore radically different from claims made about linguistic objects in general. How does claim 2., for instance, differ from a claim 2.a. which says: "Anyone who asks a true question always expects an answer from the person(s) to whom the question is addressed."? The two alternative

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[1] This assumption has been the cornerstone of transformational generative theory from the early sixties. The principle itself is the basis of scientific explanations in other sciences as well (cp. Braithwaite 1960, 22ff; Nagel 1960, 29ff; Hempel 1966, 70ff).

claims differ, first, in the way in which they can be proved or disproved and, second, in their significance. Claim 2.a. could be disproved if a speaker of a language said he didn't always expect an answer to a question. Claim 2. is impervious to this kind of evidence; in fact, no immediate observation can directly disprove it, unless that observation is about some linguistic object which can be shown not to be derivable from the proposed underlying structure by the set of rules whose members are the only possible ones in a grammar. Second, claim 2.a. is not differentiated from any other true statement that one might want to make about questions whereas the fact that 2. is a claim about deep structure means that it has been chosen over alternative claims as more basic or more significant for the characterization of questions.

Testing such abstract linguistic representations involves two things. First, to adduce semantic, syntactic, and phonological facts that appear to be unrelated but which have the common feature of being derivable from the proposed abstract structures by means of a set of independently motivated rules. Second, to see whether there are any facts that cannot be derived from the abstract representation in this manner; and in case there are, whether there is some alternative theory which would account for these as well as the others. Testing an underlying structure thus implies the weighing of these proposed abstract representations against facts and against alternative theories. Accordingly, in this present study an attempt will be made to do both.

Since we will be trying to justify the four claims as being of universal validity, the facts that we are going to test them against will be taken from more than one language. Since similarities among languages constitute a shaky basis for claims about universality unless at least two other possible

sources of such resemblances -- genetic and areal influence -- are ruled out, our language sample of altogether about 85 languages was drawn from various language families and various parts of the world, as the following list shows. The likelihood of the third possible factor to cause crosslinguistic agreement -- chance[2] -- is assumed to be reduced to a minimum by the size of the sample.[3]

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[2] For some theoretical and methodological considerations of these three factors, compare Greenberg 1953.

[3] Languages more frequently mentioned in the paper are listed here in a genetic breakdown:

AMERIND: Andean-Equatorial: Quechua
Oto-Mangean: Chatino

EURASIATIC: Altaic: Azerbaijani
Bashkir
Buriat
Turkish
Uralic: Finnish
Hungarian
Japanese
Korean

SINO-TIBETAN: Mandarin
Tibetan

AUSTRO-ASIATIC: Khasi
Kurku
Vietnamese
Pačoh

DRAVIDIAN: Tamil
Kannada

AUSTRONESIAN-THAI-KADAI: Melanesian: Rotuman
Indonesian: Agta, Atta Negrito, Balangao, Bontoc, Dibabawon Manobo, Ilongot, Kalagan, Kalagian Tagbanwa, Malay, Sangir, Tagabili, Tagalog
Thai-Kadai: Thai

(Footnote 3 continued)

NEW GUINEA: Enga

INDOEUROPEAN: Italic: French, Italian, Latin, Spanish

Germanic: Dutch, English, German, Gothic

Slavic: Bulgarian, Macedonian, Polish, Russian, Serbo-Croatian, Slovenian

Celtic: Scottish Gaelic

Baltic: Latvian, Lithuanian

Iranian: Persian

Indic: Bengali, Gujarati, Panjabi

Greek

CONGO-KORDOFANIAN: Niger-Congo: Ewe, Fante, Fulani, Gbeya, Grebo, Sango, Swahili, Temne, Wolof, Yoruba

NILO-SAHARAN: Chari-Nile: Nubian

AFRO-ASIATIC: Semitic: Akkadian, Amharic, Syrian Arabic, Iraqi Arabic, Chaha, Geez, Harari, Soddo, Tigrinya

Cushitic: Burji, Galla, Konso, Maji, Somali, Welamo

Chad: Hausa

Jamaican Creole

Basque

Almost all of these claims have been repeatedly made by various linguists although they differ widely with respect to the extent to which they have been shown to be empirically powerful and theoretically viable. The first proposal concerning disjunctive structure I found is in Kretschmer 1912 (also 1938), except that such structure is not claimed to underlie yes-no questions but to have preceded, historically, their present form. The proposal as one concerning underlying structure has been generally accepted in transformational theory since Katz and Postal advanced it in 1964. The claim about the "request" component is implicit in Katz and Postal's account (1964, 85) and was subsequently made explicit by Sanders (1967, 133ff) and by advocates of the theory of performatives. How to cope with biased questions has been recognized as a problem in transformational theory; the claim that our number 3. refers to is the one found in Stockwell 1968, 645 ff. Finally, the characterization of question-answer relationship as suggested in 4. has been repeatedly alluded to by many accounts, linguistic (e.g. Katz and Postal 1964, 114f) and philosophical (Katz 1968) and was made explicit by Sanders (1967, 154).

Although it is implied by all of these accounts that their claims hold, hopefully, for more than one language, none of them, except for Kretschmer's paper (1938), bring crosslinguistic evidence to bear on the question: all of them base their arguments on ENGLISH only. It is because of this narrowness of the empirical basis of previous accounts that novelty can be claimed and significance can be hoped for for this present study.

1.2 Naturalness of domain and class. Although the choice of the general object of investigation is clearly up to the researcher's interest -- so is the fact, for instance, that the subject of this study is determined primarily by syntactic criteria and thus we do not generally consider constructions that can be used as questions but which are not syntactically interrogative, or ways in which questions can be used for purposes other

than enquiry -- some justification of the scope of one's approach is felt to be in order.

In one sense, the problem as to whether a question-answer pair is a proper domain of linguistic investigation and whether all yes-no questions form a natural class,[4] is the central problem of this paper. If there are universal generalizations that hold true for such a domain and for such a class of constructions, this by itself provides justification. In other words, meaningful answers to these questions can be given only after two things have been shown: that instances of the yes-no-question-and-its-answer construction do exhibit common behavior ; and that there are theoretically justifiable ways of representing them as a natural class. The point in the course of this paper at which we will be in best position to draw relevant conclusions will therefore be the very end. What will be given here below by way of introduction is only a brief consideration of alternative domains and alternative classes and some anticipation of the extent to which the domain and class of constructions singled out in this study will turn out to be justified.

1.2.1 Domain. The maximal domain of the proposed generalizations will be a two-sentence discourse consisting of a question and an answer. Two questions may arise.

a/ Why not limit our investigations to the domain of the sentence as has been traditionally done?

b/ Provided that we accept the discourse as a legitimate domain, why remain within the bounds of two-sentence discourses? Specifically, why not consider multisentential question-answer pairs (i.e. where the question and/or the answer consists of more than one sentence), and sequences of question-answer pairs or of declarative sentences and question-answer pairs?

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[4] On the notion "natural class" in linguistics, see Halle 1962 and Zwicky 1968.

There is a three-fold answer to the first point. First, we step beyond the sentence since it seems that there are observable limits to the set of sentences that can serve as proper answers to a question and that this relationship between yes-no questions and their answers can be characterized; and, moreover, to describe properties of question-answer sequences, the same theoretical tools are needed as for sentence-linguistics, such as, for example, the genus-before-species ordering rule (Sanders 1967, 154).

Second, it appears that if we do not aim at characterizing question-answer relationships to start with, but want to explain properties of questions by themselves and of answers by themselves as individual sentences, there will be some properties for which no proper explanation is found but which can be accounted for if we consider these sentences in the context of their respective questions or answers. Such properties are tags, for questions, and emphasis, in answers.

Third, the domain of discourse as a natural one for grammars is independently motivated; i.e. even if question-answer pairs did not exist, it would turn out to be the proper domain (cp. Sanders 1967 and Sanders 1969).

As for considering more-than-bisentential interrogative discourses, the following remarks can be offered. That in this paper we will not consider multisentential questions and multisentential answers is an arbitrary restriction on the scope of this present investigation. Although such dialogues do have their own problems (cp. e.g. Did you turn off the radio and turn off the light and lock the door? *Yes and no and yes (respectively).), it seems that the nature of such dialogues is not basically different from bi-sentential question-answer pairs. That sequences of declarative sentences and question-answer pairs will not be investigated is seen as an equally arbitrary and more significant limitation, since the rules which delimit "grammatical" sequences from "ungrammatical" ones will be different in nature from the ones that we will discuss for relating questions to their

proper answers -- if they are statable at all.[5]

1.2.2 Class of constructions investigated. Provided that one's natural interest lies in yes-no questions and their answers, the question is whether these constructions by themselves form a class which is sufficiently inclusive, on the one hand, and not too inclusive, on the other, from the point of view of stating generalizations. Three alternative classes offer themselves, a/ and b/ including yes-no question-answer pairs and c/ breaking down the class:

a/ any sentence-and-response pairs; i.e. declarative sentences related in this manner, greetings and their answers, imperatives and their answers, wh questions and their answers and yes-no questions and their answers all taken together

b/ any question-and-answer pair; i.e. both wh questions and yes-no questions and their answers

c/ some subclass of yes-no-question-answer pairs.

As for a/, it is true that considering any bisentential discourse where the second sentence is an answer, there are always some answers that are felt to be improper, as compared with the adequacy of some others. The nature of the limitations, however, varies. Considering greetings, imperatives and questions, they turn out to differ altogether on three counts with respect to their answers. First, in the extent to which answers are expected at all. Second, in the extent to which non-verbal answers are substitutable for verbal ones. Third, in the nature of the relationship between stimulus sentence and answer. Answers are most expected for greetings (although there are cultural variations here), less to questions and least to imperatives. The order of these three constructions is the same if we consider the

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[5] For a pessimistic view, see Bever and Ross, no date. Lang has collected interesting data on question-answer sequences as well as on question-series in Enga (1970, 4ff).

increasing substitutability of non-verbal answers for verbal ones. As for the relationship of the answer to the stimulus sentence, the first distinction to be made is between answers to greetings as opposed to other answers, since within type-limitations, the set of possible responses to greetings is usually restricted to a few tokens.[6] The second distinction to be made is between answers to questions versus the other two types, since the principle of member-to-class relationship which accounts for the majority of appropriate answers to questions is of much less use in accounting for other answers. In particular, while responses to greetings may bear member-to-class relationship to the stimulus sentence, the proper set of greeting answers can be governed by other principles and as far as imperatives are concerned, the principle of member-to-class relationship does not appear to figure at all. To illustrate these points, compare What do you want? A bucketful of coal., where the answer is a member of the set of possibilities raised in the question, with marḥaba. marḥabtēn 'Hello! Two hellos!', an Arabic greeting formula, where the response is again a member of class mentioned in the stimulus sentence (Ferguson 1967). On the other hand, some responses to greetings are a completion of the sentence (e.g. God be praised! Forever, amen.), or reciprocations (e.g. How are you? How are you?), rather than in a member-to-class relationship; and an answer to an imperative such as Go! I won't. cannot be interpreted as a member of the class mentioned in the imperative, either. In view of these differences between greetings, imperatives and questions with respect to their relationship to their answers, the decision not to treat all of them together seems justified. In addition, these three constructions themselves are of course very different in other respects as well; although notice should be taken of the similarity between imperative and interrogative constructions, both semantic and

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[6] It should be pointed out, however, that the token-restrictions on what responses are proper to what greetings have to do, beside grammar, with cultural conventions.

structural (cp. the optional presence of adverbs such as "please" and the occurrence of tags in both constructions).

Now let us consider b/. The decision to treat yes-no questions as separate from wh questions is more arbitrary than dividing questions from imperatives and greetings. It will be claimed that the relationship that holds between answers and yes-no questions also holds between answers and wh questions. Furthermore, these two classes of questions[7] themselves also share semantic and structural properties (such as question particles) and there have been proposals concerning their abstract structures as well to look similar (cp. Langacker 1969 , chapter III.)

We will next consider c/. There are various possible subclasses of yes-no questions that could be talked about by themselves. First (1), grammars often distinguish between yes-no questions and alternative questions such as Did he read it? as opposed to Did he read it or not? Arguing that these two questions mean the same, we could establish another split among yes-no questions (2): those that imply a positive-negative pair of alternatives and those that imply two alternatives that appear to agree in affirmation value, such as Did he consult you or did he forget? In the

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[7] For an early differentiation of these two types of questions, see Aristotle's De Interpretatione and Topics. In both places, binary choice questions, called "dialectical questions" (πρότασις διαλεκτική), are distinguished from wh questions by the speaker's having made certain more specific assumptions about the answer. De Interpretatione 20b 29: (in contrast with a question like "What is man?", in a dialectical question) "The questioner must specify further and ask whether man is this or not this." (J.L. Ackrill's translation, Oxford 1963) (δεῖ τὸν ἐρωτῶντα προσδιορίσαι πότερον τόδε ἐστιν ὁ ἄνθρωπος ἢ οὐ τοῦτο). Topics 158a18: (a question like "What is Good?" is not dialectical) "unless one says it having made certain distinctions and choices e.g. "Is Good this or that?" " (ἂν μὴ αὐτὸς διορίσας ἢ διελόμενος εἴπῃ οἷον ἆρα γε τὸ ἀγαθὸν οὕτως ἢ οὕτως λέγεται). For various other logical and philosophical paraphrases of the same distinction, see Prior and Prior 1955. For general literature on questions by philosophers, see e.g. Hamblin 1958, Leonard 1959, Steinmann 1959, Harrah 1959, 1963, Katz 1968, Loeser 1968.

latter case, it is possible for the question to raise more than two alternatives (Did he consult you or did he forget or didn't he need advice anymore?), so we could talk about binary and multiple-choice questions. Multiple-choice questions would then be semantically halfway between wh and yes-no questions, resembling the former in offering multiple choice and resembling the latter in that the choices are a limited class. Whereas for (1) there may be at least surface justification -- alternative and yes-no questions indeed are different structurally -- it would be hard to justify (2): in no language have there been found corresponding structural differences (e.g. in the shape of OR) and there are obvious paraphrase relationships as well (cp. Did you see Peter or (not Peter but) John?). Thirdly (3), we could treat only "neutral" or only "biased" questions by themselves (such as Is he crazy? vs. He is crazy, isn't he?) Since here both some semantic and some structural reasons support the classification, we will indeed have to consider this dichotomy in making claims about underlying structure; but there are still enough shared properties to justify these two classes as subclasses of one type only.

What is suggested, therefore, as the conclusion of this preliminary discussion, is that yes-no questions and their answers are a proper domain of linguistic analysis and that they consitute a natural class of constructions. With respect to domain, the decision not to treat questions and answers separately and not to treat question-answer sequences is judged to be justified in that we would have to give up some generalizations and worry about new problems, respectively. Not dealing with multisentential questions and multisentential answers, however, is by arbitrary choice only. With respect to class, wh question and yes-no questions together appear to be possible natural classes larger than just yes-no questions by themselves; and neutral versus biased questions are suggested as being legitimate subclasses of yes-no questions.

2. The Alternative

2.1 The claim. We are now considering the hypothesis that the abstract representation of all binary choice questions includes the following structure: X OR NOT-X, where X stands for a proposition.[1] This suggestion was assumed in Katz and Postal 1964 (100, 128) and was claimed and argued for in Sanders 1967 (e.g. 134f), Stockwell et al. 1968 (esp. 633-635 and 642-644) and Langacker 1970. Prior to them, as early as in 1912, Paul Kretschmer argued that the disjunctive sentence was the most ancient type of yes-no question and almost all other yes-no question constructions were derived from it (cp. Kretschmer 1912, 1938).

What the claim implies is that a structure paraphrasable as John is a Swede or John is not a Swede. is taken to be part of the structure of such questions as

Is John a Swede or isn't John a Swede?

Is John a Swede or isn't he?

Is John a Swede or not?

John is a Swede, isn't he?

John is not a Swede; or is he?

Is John a Swede?

Isn't John a Swede?

Is John a Swede?

Observations that we consider as evidential fall into three classes. Some facts seem to indicate merely that the underlying structure of yes-no questions must be a complex one: coordinative or subordinative. Others limit the notion "complex underlying structure" by indicating that this structure is coordinative, and, in particular, disjunctive. Again others specify that the disjoined sentences are an affirmative and a negative one.

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[1] We will use capital letters (e.g. NOT) for representing underlying structures and we will underline words (e.g. not) that are "actual" bits of speech.

Facts that merely indicate that the structure of yes-no questions, on some level of abstractions, is that of a non-simple sentence come from yes-no question intonation (2.2.). Questions with the surface structures x or not-x, x or not, and x or, in all of which there is an overt or, belong to the second class in that they point at disjunctive structure (2.3.). Finally, surface types overtly containing a negator such as x not x and x not (in addition to the above-mentioned x or not-x, and x or not), some shared properties of questioned, negated, and emphasized constituents, some facts about question-answer relationships and about the meaning of yes-no questions (2.4.) all converge to indicate that it is an affirmative and a negative sentence that are disjoined.

2.2 Evidence for complex structure: intonation. Grammars of many languages report the following facts about intonation:

1. (Non-alternative) yes-no questions have a rising pattern.[2]
2. Alternative questions have rising-falling intonation.[3]
3. Alternative statements also have a rising-falling pattern.

What is interesting about these empirical observations? Their interest -- as the interest of any linguistic fact -- could lie in their bearing on some known relationship, whether confirmingly or disconfirmingly, or in their pointing to some new relationship. The three observations

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[2] For a cross-linguistic investigation involving more than one-hundred languages and making this observation as universally valid, see Hermann 1942. Compare also Ultan's cross-linguistic study (1969) where only a few exceptions are noted such as CHITIMACHA, FANTI and GREBO, languages that do not have rising intonation in yes-no questions even as an alternative to some other pattern. TWI, a third Kwa language is also an exception (Victoria Fromkin, p.c.); also WOLOF (Stewart and Babou 1956, IV. -9.), which belongs to the larger group of Niger-Congo languages to which the Kwa group also does.

[3] E.g. AZERBAIJANI (Householder and Lotfi 1965, 208).

above are interesting since they disconnect members of a natural class -- alternative and non-alternative yes-no questions (since they do not agree in their intonation pattern)-- and they relate alternative questions and alternative statements (in that they have the same intonation pattern) which, one might think, belong to different classes. An explanation of why intonation patterns should be distributed this way yields itself if we complement these facts with two assumptions: that alternative questions have an alternative statement in their deep structure and that non-alternative yes-no questions are derived from the same deep structure and the difference between them and the alternative type is that in simple yes-no questions the second alternative is deleted. Putting facts and assumptions together, the following coherent picture reveals itself about intonation: there is no such thing as a specific yes-no question intonation, in the sense of its being different from any other intonation pattern; the intonation of yes-no questions is predictable from the intonation of the alternative statement that their deep structure contains: they are identical patterns.[4]

It is because this best available explanation of intonation in yes-no questions rests on the assumption that there is an underlying disjunction to all such questions, that intonation counts as a piece of confirming evidence for our posited X OR NOT-X structure.

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[4] This observation concerning the relationship between the intonation of yes-no questions and disjunctive statements was made by H. C. Coleman in 1914 (Intonation and emphasis. In: Miscellanea Phonetica, p. 22, as quoted in Bolinger 1957, 78). In 1912 (p. 518) and later in 1938 (27-35), Paul Kretschmer made this observation the cornerstone of his argument to the effect that yes-no questions are historically derived from disjunctive sentences. Hermann (1942) rejected this idea mainly because he claimed disjunctive constructions were "young", whereas yes-no questions are ancient. Whereas Coleman simply made the observation, and Kretschmer used it to support an argument about historical derivation, Langacker (1969, ch. II; and 1970), just as this present study, uses it for corroborating evidence for the logical derivation of yes-no questions from a disjunctive construction.

Although it is clear that if we assume a disjunctive underlying structure for yes-no questions, we can explain their intonation pattern, it should be recognized that for the sole purpose of explaining intonation a less restrictive hypothesis would do just as well. Such a less specific hypothesis would be: "The underlying structure of yes-no questions is some non-simple sentence." This is because not only disjunctively co-ordinated sentences have rising-falling intonation but also other coordinative types, such as conjoined structures and, in fact, subordinative constructions as well. In other words, in order to explain rising intonation in yes-no questions, we only have to assume that yes-no questions are represented in the deep structure as sentences included as first member in another sentence. We therefore need other evidence to specify exactly what kind of complex sentence structure is to be assumed.

2.3 Evidence for disjunction.

2.3.1 x or not(-x). Searching for evidence to show that the underlying structure of yes-no questions is, of all non-simple types, a disjunctive one, we find three surface types which all share the property of containing an overt disjunctive connective: x or not-x, x or not, and x or. In this section we will consider the first two.

Alternative questions of an x or not(-x) surface structure have been found described by grammars of a number of languages as one possible way of formulating binary choice questions, although it is a more preferred construction in some than in other languages. The existence of this construction may be a universal. An example of the x or not-x type question is ENGA: baá pélyape (páde baá) nápelyape " he goes or he not-goes". An example of x or not is FINNISH: menetkö, tai et 'Are you going, or not?' (Russell Ultan, p.c.).[5]

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[5] Other examples for x or not(-x) are the following:
ARABIC (SYRIAN): btəžji wəlla la? 'Are you coming or not?' (Cowell 1964, 536)

Beside the fact that these questions contain an affirmative part, a disjunctive connective, and the negative version of the affirmative part, three additional shared characteristics can be noted: these sentences can all be pronounced with an intonation pattern such that the resulting question is void of any expressed expectation on the side of the speaker concerning which alternative might be right; the order of the two parts is affirmative followed by negative (or else, the question ceases to be neutral); and their answers must consist of more than a single affirmator such as 'yes' or 'no' (unless disjunction is meant in a "non-focused" sense such as Have you seen Jim or Mary? (meaning 'either one of them, doesn't matter which') to which either Yes. or No. would be a proper answer).

The observed ordering can be explained, as Sanders suggested, by a genus-before-species rule (Sanders 1967, 155). The rule is to predict the ordering of two coordinate structures if one of them is wholly included in the other but the other is not wholly included in the first -- i.e. one is genus to the other one, the species. The order predicted by the rule is for the species to follow the genus. As evidence for the rule, Sanders cites, besides question-answer sequences and interrogative-response sequences, such constructions as appositives (A cat, that cat on the mat, is mine. but not *That cat on mat, a cat, is mine.), other-iterations (I saw one bird and another bird and another other bird. but not *I saw another bird and one bird and another other bird.), numerals (I saw one

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(Footnote 5 continued)

BENGALI: oṭa dekhte paren ki na 'Can you see it or not?' (Dabbs 1965, sub whether or not)

BURIAT: axa jereegy ali ygiigy 'Has the elder brother come or not?' (Poppe 1960, 82)

MANDARIN: nǐ dào túshūguǎn qù háishi bú qù 'Are you going to the library, or not?' (Elliot 1965, 57)

PERSIAN: in naezdikiá raesturáni háest ya nae 'Is there a restaurant in this vicinity, or not?' (Obolensky et al. 1963, 4. 138)

RUSSIAN: jest' il'i n'et 'Is there or isn't there?'

THAI: nai chit yōō teenee rēu plow 'Does Nai Chit live here, or not?' (Campbell and Shaweevongse 1957, 81)

two three four five birds. but not *I saw two one three four five birds.), prosodic versus morphemic connectives (Napoleon, Caesar, and Darius ran. but not Napoleon and Caesar, Darius ran.), cases of stylistically preferred ordering (men and women as opposed women and men) and even such subordinate constructions as someone good but not *good someone (153-156).

There is also another class of questions which exhibit surface realizations of disjunction and negation but for which none of these criteria hold. These are what one might call "afterthought questions" such as You have never met her... or have you? These are non-neutral, the order of the affirmative and negative elements is not predictable by the genus-before-species rule and they are answerable by a single affirmator.

Both neutral and afterthought questions of this kind vary crosslinguistically, on the other hand, depending on what part of the underlying structure does not have to be expressed superficially -- i.e. according to one concept of grammar, by the rules of deletion that may operate on them. Conditions of deletability have not been observed in many languages for the purposes of this study; for some remarks on ENGLISH and MANDARIN, see Elliot 1965, 86ff, 92 and Wang 1965, 460-464; for ENGA see Lang 1970, 55-56, 63-65.

2.3.2 x or. Next, question forms will be presented which contain the connective 'or' and, in addition, only one of the two alternatives. An example is provided by POLISH. Czy is a disjunctive connective e.g. czy dziś czy jutro 'today or tomorrow' (as part of a statement) (Damerar 1967, 132-133; for its relationship to a question pronoun (cp. Russian čto), see Vondrák 1928, 451). On the other hand, czy is not a connective but a question particle in czy to jest pióro 'Is this a pen?' (cp. to est pióro

'This is a pen.') (Schenker 1966, 15).[6]

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[6] Other examples are given below. In citing examples we gave a "literal translation" in addition to the gloss whenever it was easy to obtain one; otherwise, morpheme-by-morpheme analyses are given only to the extent to which they are important to the argument. It should be pointed out that we do not count questions such as Or weren't you there? where the presence of or is clearly because the question assumes some discourse-antecedent with respect to which the possibility raised in the question is an alternative (such as You must have met him at the party yesterday.). This use of 'or' is widespread in many languages: it occurs in ARABIC, AZERBAIJANI (Householder and Lotfi 1965, 101), HEBREW, HUNGARIAN, EWE (Westermann 1905, 331, sub alá) and YORUBA (Rowlands 1969, 35ff). An example from CHATINO: ta no? lko nskeye ti? 'Or do you think it is I?' (Pride 1965, 203) (cp. with a sentence where ta is a disjunctive connective: ni ndška ti? rantšu ta ndška ti? tiyeta 'What do you want, a ranch, or do you want a shop?' (Pride 1965, 168-169)).

FANTI: anée in simple question: iríko anée 'Are you going (or what)?' (cp. iríko 'You are going.') (Welmers 1946, 57f)
anée in disjunction: na oye bibiní' anée (oye) buro-ní' 'Is he an African or (is he) a European?' (Welmers 1946, 70)
(or cp. ɔbayɛ àná ɔnkɛ yɛ 'Will he do it or will he not do it?' ɔbayɛ àná 'Will he do it?' (Balmer and Grant, 1929, 67). For further discussion, see Christaller 1875, 90, 94 and Christaller 1933, 324 sub aná, anáa.)

FULANI: koo in simple question: sei nder yiite jahannamaaye koo 'Only in the fire of hell?' (Stennes 1961, 55)
koo naa non ɗum uinda haa kaha Mariyama 'Or not so is it written in the book of Mary?' (Stennes 1961, 46)
koo in disjunction: koo boɗeejo; koo ɗaleejo; koo irin woi 'a red man, or a black man, or whatever' (Stennes 1961, 49; cp. also 19, 44, 50)

GBEYA: wéndé in simple question: kéey dɛ́ mɛ́ wéndé 'Are you afraid?' (preceded in context by 'Why are you going?') (Samarin 1966, 60)
wéndé in disjunction: wa gbɛ́ wĭ-ré taa wéndé gan náá wéndé gan mʒɔrɔ́ "They kill people three or (=wéndé gan) four or five." 'They kill three or four or five people.' (Samarin 1966, 71)
Professor Samarin, however, does not think that the question-final wéndé should be given the gloss 'or' (personal communication).

GREBO: he in simple question: ple ɔ didɔ ne he 'Did he come, after all?'
he in disjunction: ple do no he nyema 'Is it Do or Nyema?' (Innes 1967, sub he)

While x or not-x type questions are perhaps universally available, x or type questions, however widely observable, have a much more restricted cross-linguistic distribution. Thus, one might expect languages

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(Footnote 6 continued)

GUJARATI: ke in simple question: teo chālī gayā chhe ke 'Have they gone away?' (Tisdall 1892, 100)
ke in disjunction: təhmahre cah piwi che ke kOphi 'Do you want tea or coffee?' (Cardona 1964, 46)

HAUSA: kō in simple question: zā kà tàfi, kô 'Will you leave, huh?' (Kraft 1963, I. 168f) kō dà wurîn dà zân fakè 'Perhaps there is a place that I may get in (out of the rain)?' (Kraft 1963, II. 129)
kō in disjunction: zâi zō yâ , kō bà hakà ba 'He is coming today, or isn't it so?' (Kraft and Abubakar 1965, 164)

JAPANESE: ka in simple question: ano ié desu ka 'Is it that house?' (cp. ano ié desu 'It is that house.') (Martin 1954, 46)
ka in disjunction: ano hito wa Igirisu-jin ka Amerika-jin ka desu 'He is either English or American.' (Vaccari and Vaccari 1942, 231)

KANNADA: -oo in simple question: ad cākō 'Is that a knife?' (cp. ad cāku 'That is a knife.') (Bright 1958, 46)
-oo in disjunction: soomvaarvoo, mangaLvaarvo, avr ill barbohudu 'Either on Monday or on Tuesday he can come here.' (Bright et al. 1960, 55.)
(Nayak 1967, 106 says that -oo and -aa are allomorphs; -aa in simple question: ãvnãã 'Is he?', synonymous with ãvnõõ; cp. av(a)n(u) 'he', also Jensen 164: nidde māḍuttīyā 'Are you asleep?' cp. nīnu baruttīyō 'Are you coming?'; -aa in disjunction: avr vidyārthi galā athva mēṣṭrā 'Are they students or masters?' (Bright 1958, 45). There also appears to be a third variant, -ee; according to Bright 1958, 45, it is an idiolectic variant of -aa; Spencer 1914, 34 says -oo and -ee are free variants and -aa is used in the singular and plural second person.)

LATVIAN: vai in simple question: vai māte mājā 'Is mother at home?' (Lazdiņa 1966, 13)
vai in disjunction: vai iesim uz teatri vai koncertu 'Are you going to the theatre or to the concert?' (Lazdiņa 1966, 228-229)

LITHUANIAN: aȓ in simple question: aȓ tù buvaĩ vākar miestè 'Were you in the city yesterday?' (Dambriūnas 1966, 79)
aȓ in disjunction: paaiškẽs, aȓ às tiẽsą sakaũ, ar nè 'It will turn out whether I speak truth or not.' (Senn 1966, I. 483)

that do have x or type questions to have had a historical period when such constructions had not yet come into existence, but x or not-x had. Historical data have been found only with respect to one language, JAPANESE.

(Footnote 6 continued)

The LITHUANIAN and LATVIAN examples do not necessarily seem to illustrate the point i.e. the identity of a question particle and a disjunctive connective, since the sentences with vai...vai and aĩ...aĩ can be analysed not only as questions not marked by a question marker and containing 'either...or' but also as double questions each marked by a question marker vai and aĩ, with 'or' deleted in between. Since, however, vai and aĩ can also occur in disjunctive declarative sentences, this shows that the former interpretation is correct. It is interesting to note that although the JAPANESE situation is the same -- ka connects alternative questions, it is a question particle in simple yes-no questions, and it also occurs as a disjunctive connective in declarative sentences -- Vaccari and Vaccari (1942, 67; compare with 231) claim that ka in the disjunctive question is a question, rather than a connective, particle.

MARGI: ndə̀gá in simple question: kə̀ j_áshl̃í ndə̀gá 'Shall he come (or not)?' (Hoffmann 1963, 98)
ndə̀gá in disjunction: Hoffmann (1963, 97) states that it is used in disjunctive questions to mean 'or'.

SAMOAN: po/pe in simple question: po'o Paulo se taife'au 'Is Paul a pastor?' (Marsack 1962, 61)
po/pe in disjunction: sa e alu i le fale meli, pe leai 'Did you go to the post office, or not?' (Marsack 1962, 112)
(Gerald Sanders called my attention to the Samoan facts.)

SANGO: wala in simple question: tongana mɔ tɛ ngunzá, mɔ tɛ susu mélangé na ni wala "When you eat greens, you eat fish mixed with it, or?" 'When you eat greens, do you eat fish mixed with it, or not?' (Samarin 1967, 130)
wala in disjunction: ála bóngbi na dimanche 100, wala 200, wala 90 'They meet on Sunday, a hundred, or two hundred, or ninety (in number).' (Samarin 1967, 129)

In addition, TIBETAN has this pattern (Lalou 1950, 36). One may also cite the Slavic question particle li in comparison with the disjunction ili. Binary choice question formation by means of li or l'i attached to the constituent queried is non-colloquial in RUSSIAN and SERBO-CROATIAN and colloquial in BULGARIAN and MACEDONIAN, whereas the particle is obsolete in SLOVENIAN. (Bidwell 1969, 81; for BULGARIAN, see also Beaulieux 1950, 349ff; for SERBO-CROATIAN, see also Bidwell 1965, 258-259) On the other hand, the disjunctive connective is ili in SERBO-CROATIAN

Sansom (1928, 270), while noting that x ka y ka type questions also existed at that time, cites an example of binary-choice-question-final ka from the 9th century A.D. What this shows is that both constructions are stable ones and that one may have to go back by more than twelve-hundred years in the history of a language to discover a stage where the later x or question construction did not yet exist.

This far we have seen some evidence to show that the structure of yes-no questions, on some level of abstraction, is complex, and, it is, in particular, a disjunctive one. Questions of the type x or not-x and x or not may be taken to be evidence for the nature of the two disjoined sentences showing that they are an affirmative and a negative one. Is there some more evidence to show this?

2.4 Evidence for the negative conjunct.

2.4.1 x not (-x). Additional evidence to show that the second conjunct is a negative one comes from the surface type x not (-x).

An example of such connective-less alternative questions, without

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(Footnote 6 continued)
(Bidwell 1965, 243) and in RUSSIAN, which appears to be analysable as the conjunction i 'and' and li. A highly conjectural analogy to this etymology might be FANTI anée. This word, as we have seen above, is a question particle and also a disjunction. Since in FANTI 'and' is na (Welmers 1946, 69) and -a is a binary choice question suffix (Welmers 1946, 57f), anée alternating with anáa might derive from prefix a- plus conjunction na 'and' plus question suffix -a. What these etymologies seem to suggest is that disjoining is questioned conjoining, i.e. "x and not-x?", a questioned contradiction, resolves in "x or not-x". The vague notion that 'or' is somehow the "natural" connective in questions, as opposed to 'and', the "natural" connective in statements, is suggested by some other facts as well. to be presented later (cp. Section 3.4.3).

Although in the majority of cases the 'or'-question particle occurred in affirmative questions (e.g., among 7 HAUSA questions with ko given by Kraft 1963 (I. 169, 223, II. 129ff), six are affirmative and one negative), no stated restriction of this sort has been noticed in any description, except that Bidwell (1969, 81) says that questions containing li in RUSSIAN are usually negative ones.

deleting X, is AMHARIC: yəgabal yəwåtal 'Is he entering or leaving?' (Cohen 1936, 312f). Others are given in the footnote.[7] THAI and VIETNAMESE, on the other hand, provide examples for x not;

THAI: koon chorp len tennit mɣ̄ 'Do you like playing tennis or not?' (Campbell and Shaweevongse 1958, 80)

VIETNAMESE: ta còn guên gi nũa không "I still-have forget something or not?' (Emeneau 1951, 211)

In THAI and VIETNAMESE, as the examples show, 'not' is a "question marker" in that it is the only morpheme that differentiates an affirmative question from an affirmative statement -- and this is all that it does in this context. Other languages where 'not' has such a double function of being both a negator and a yes-no question marker are TAMIL and SOMALI. In TAMIL, -aa is a yes-no question marker but it is also a negative marker of inanimate future verbs, defective verbs and in conditional clauses (Srinivasan 1919, 32f). In SOMALI, ma prefixed to a verb makes the sentence into a yes-no question; and ma prefixed to a verb which has negative inflection makes the declarative sentence into a negative declarative one.[8]

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[7] BASHKIR: kilәyemme kilmәyemme 'Shall I come or shall I not come?' (Poppe 1964, 79)

BURIAT: bī gy, ygii gy 'Is there, or isn't there?' (Grammat'ika Burjatskovo Jazyka 1962, 325)

MANDARIN CHINESE: shir bu shir 'Is it so or is it not so?' (Swadesh 1948, 12)

TAMIL: aran raaman-aa kaṇṇan-aa 'Is he Raman or Kanan?' (Agesthialingom 1966, 14).

[8] In addition, ma is also a variant of ama 'or' and also means 'which?', 'what?'. (e.g. a noun with ma suffixed to it means 'which/what (noun)?' and a definite article with ma suffixed to it means 'who?', 'whom?' (Moreno 1955, 288, Bell 1953, 43, 54ff, 66). For the relationship between the disjunctive particle and a negator, see also QUECHUA, where -čʉ is 'or', but mana+Verb+čʉ is the negative form of the verb (Bills and Vallejo 1969, 37, Leonardi 1966, 61f.)

In some languages, the question marker has no negative function in contemporary use but is derived from a negator. One example is MANDARIN CHINESE; cp. ta hui shuo Zhongguo hua ma "he can speak Chinese language ma" 'Can he speak Chinese?' (Elliot 1965, 91). Elliot points out that there is historical evidence to show that ma derives from a negative marker wú, later replaced by bú. Another language where the question particle is historically related to a negator is LATIN (-ne; cp., for instance, Seiler 1952, 86).

Thus far, the only evidence that we have seen to indicate that the second conjunct of yes-no questions is a negative one came from yes-no questions whose surface structure in fact includes such a negative conjunct. But what about questions whose surface structure includes a second conjunct which in fact is not a negative one, such as Did he use a pencil or a pen? or Are we going or what? And what about questions whose surface structure does not include a second conjunct at all such as Did he use a pen?

As far as yes-no questions with a non-negative second conjunct are concerned, we will not discuss them here but only suggest that these, too, may have an underlying X OR NOT-X included in their structure; Did he use a pencil or a pen? would then come from an underlying structure paraphrasable as Did he use a pencil or did he not use a pencil, but he used a pen?[9]

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[9] Questions whose second conjunct is a 'what' i.e. they are of the type x or what or x what seem to be fairly widespread. In BENGALI, ki 'what?' occurs in the following binary choice question types: 'Has he taken medicine, na ki ("or what")?' (Hudson 1965, 33), and, without the connective, in apni-ki bæšto ačhen 'Are you busy?' (apni 'you') (Dabbs 1965, sub ki), and in ʃe baɽi ʄac:e ki 'Is he going?' (synonymous with ʃe ki baɽi ʄac:e and ʃe baɽi ʄac:e) (Page 1934, 166). According to C.A. Ferguson (p.c.), the question particle ki in the first two sentences quoted has a different intonation from ki 'what?' and is not felt to be identical with ki 'or', although the historical relation is clear. In ENGLISH, there is Are we going or what? but the deletion of the connective is not possible. The same 'or what' construction is used in ENGA neutral questions (Lang 1970, 45). In GUJARATI, as Tisdell (1892, 100) points out, śuñ 'what?' is a binary choice question particle as well, placed either before or after the question and when sentence-final, it is either preceded

For the class of yes-no questions where there is no second conjunct at all, there seems to be other convincing evidence that underlyingly there is still an additional negative conjunct. Such evidence comes from some observations concerning the relationship between interrogation, negation and emphasis, from the nature of question-answer relationship and from a consideration of the semantics of questions.

2.4.2 Interrogation, negation, emphasis. Although cross-linguistic evidence is grossly lacking at this point, just by the inspection of a few languages a relationship between three processes: negation, interrogation, and emphasis, becomes conspicuous.[10] In particular, there are a number of syntactic rules that apply to negative, interrogative, and emphatic constructions and, some of these, only to those. Such rules are of three types: rules that yield some "extra structure" (such as an extra

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(Footnote 9 continued)
by 'or' or not. Thus, the following constructions exist:

śuñ te avyo chhe
te avyo chhe ke śuñ
te avyo chhe śuñ

where ke is 'what?' and the whole construction is glossed as 'What? has he come?' or 'Has he come, or what?'. In HUNGARIAN, vagy mi "or what?" occurs, e.g. beteg, vagy mi 'Is he sick, or what?' which is a marginally used unbiased question. In JAPANESE, there is a comparable 'x or how' type construction but it seems to be restricted to dependent questions; e.g. mó kitá ka dó ka wakarimasén "he arrived or, how or, I don't know" 'I don't know whether he's arrived or not.' (Martin 1962, 231; compare also Vaccari and Vaccari 1942, 459). In KANNADA both "or what" and "what" occur with differring semantics. Spencer (1914, 106) gives the following examples: aranu iddhānō ēnu 'Is he (here) or not?', a question "indicating doubt", where -o is 'or' and ēnu is 'what', aranu iddhānēnu 'Is he here?', presumably a neutral question, with -o 'or' omitted. For examples from additional languages, see Kretschmer 1938, 39f. Whereas binary choice questions with '(or) not' are related to Did he go or did he not go? type alternative questions by deletion, all of these binary-choice questions containing '(or) what' are relatable to them by sentence-pronominalization.

[10] Worth (1964) assigns a common lable -- "suprasyntactics" -- to the three categories. See also Hetzron 1970, 902ff.

pronoun, an auxiliary, or a "cleft sentence"), rules of ordering, and rules of stressing. We will discuss evidence as to the operation of these in negative, emphatic, and interrogative contexts.

1. "extra structure"

a/ redundant pronouns In HUNGARIAN, the personal pronouns may or may not be used with the verb and the possessed noun, unless one of three conditions arises, in which case they must be "spelled" and also stressed. The three conditions are the following: if the pronouns are negated, emphasized, or questioned. For instance (* indicates that the construction thus marked is ungrammatical in the sense of its gloss, or, if it has no gloss, in the sense of the gloss of the previous sentence):

neutral: a kávém "the coffee-mine"
az én kávém "the my coffee-mine" } 'my coffee'

látok "see-I"
én látok "I see-I" } 'I see'

negative: nem az én kávém 'not my coffee'
* nem az én kávém
* nem kávém

nem én látok 'it is not I who sees'
* nem én látok
* nem látok

emphatic: az én kávém 'my coffee'
* az én kávém
* a kávém

én látok 'I see'
* én látok
* látok

interrogative: az én kávém 'my coffee?'

* az én kávém

* a kávém

én látok 'Do I see?'

* én látok

* látok

Such emphatic pronouns must be expressed by an extra element in other Uralic-Altaic languages as well, such as in TURKIC languages; also in ANCIENT GREEK (cp. Apollonius Dyscolus Synt. I, 15 where he notes this concerning contrastive pronouns), in AKKADIAN (von Soden 1952, 40), in BAKI (Fraser 1891, 78), in MAASAI (Tucker and Tompo 1950, 53), in COPTIC (possessive pronouns; Mallon 1956, 33); and, perhaps, in all other languages with pronoun-incorporation.

b/ auxiliary support In ENGLISH, do-supported (and stressed) verbs are used under three conditions: if the verb is negated, or if it is emphasized, or if it is questioned (for relevant transformational discussion and literature, see Stockwell et al. 1968, 620). Conversely, all negated and questioned and some (but not all) emphasized verbs[11] must have do support.

c/ clefting In ENGLISH, and also in HUNGARIAN, cleft sentences are common if the extraposed sentence is either emphatic, or negative, or a question, such as It is the color that I hate., It isn't the color that I hate. and Is it the color that you hate? . Langacker identifies the FRENCH question forms est-ce que and qu'est-ce que with inversions of cleft sentences (Langacker 1965, 587-600). Clefting in TEMNE appears to be obligatory in emphatic sentences and in wh questions and optional in yes-no questions and negative sentences (Hutchinson 1969, 56-71).

2. ordering In HUNGARIAN, if a constituent immediately precedes the main verb of the sentence and it is stressed, it must either be a negated

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[11] Those that Householder calls yes-emphasized verbs are the ones that have do-support.

constituent, or an emphatic one, or a questioned one. Conversely, all questioned and negated (but not all emphasized) constituents must be stressed and must immediately precede the main verbs. E.g.:

question: Maryt szereti Jim 'Does Jim love Mary?'
* Maryt szereti Jim
* Jim szereti Maryt

negation: nem Maryt szereti Jim 'Jim doesn't love Mary.'
* nem Maryt szereti Jim
* Jim szereti nem Maryt

emphasis: Maryt szereti Jim 'Jim loves Mary.'
* Maryt szereti Jim
? Jim szereti Maryt

Also, there is a cross-linguistic tendency for negated, questioned, and emphasized elements to occur early in the sentence. In some languages, even if they are suffixing (e.g. ENGA), the negative affix is a prefix. Bellugi and Klima (1964) note that not tends to appear sentence-initially in children's ENGLISH. Relevant is also Baker's observation (1970) according to which wh question movement is always to the left.

3. stressing As it was mentioned above, all negated, emphasized, and questioned constituents must be stressed in HUNGARIAN and in ENGLISH. Ibañez (1970) points out that, in GERMAN, stress marks negative and emphatic constructions.

Beside the existence of such rules that provide "extra structure", the same order, and stress for negated, emphasized and questioned elements, it should also be pointed out that the set of syntactic constituents that are within the domain of these rules and the number of applications of the rules are also seem to be the same for negative, interrogative, and emphatic contexts.

a/ distribution over grammatical categories Any constituent, and only those, that can be negated can also be emphasized and queried, and vice versa. Although this observation is only trivially true for those very few languages considered from this point of view, since in these all constituents seem to undergo any of these processes, it may become an empirically testable claim if languages are found, where only some constituents cannot undergo some or all of these processes.

b/ distribution within the sentence There is clearly some limitation on how many constituents in a sentence can be negated, queried (and, maybe, emphasized) at the same time. In particular, it seems that usually one constituent only has undergone one of these processes in a superficially simple sentence. Compare the following GERMAN examples:

negation: Nicht er ist ins Theater gegangen. 'It wasn't he who went to the theater.'

Er ist nicht ins Theater gegangen. 'It wasn't the theater that he went to.'

* Nicht er ist nicht ins Theater gegangen.
Nicht er ist gegangen und nicht ins Theater. } 'It wasn't he who went and not to the theater.'

question: Ist er ins Theater gegangen? 'Did he go to the theater?'

Ist er ins Theater gegangen? 'Did he go to the theater?'

? Ist er ins Theater gegangen?
Ist er gegangen, und ins Theater? } 'Did he go to the theater?'

Notice also that the three processes, negation, emphasis and questioning, are also similar in that they apply both on "phrase level" and on "sentence level". Under a/, sentences that result from presumed sentence-level applications are listed and under b/, sentences resulting from presumed phrase-level applications.

a/ negation: I didn't eat it.
question: Did you eat it?
emphasis: I did eat it.

b/ negation: I didn't eat it. (although I saw it)

or: I wanted not to eat it.

question: Did you eat it? (actually)

or: What did you do to it?

emphasis: I ate it. (as opposed to just seeing it)[12]

Finally, the three processes also resemble each other in that they do not affect the presuppositions of the sentences to which they apply.

To what extent have these shared properties of negation, emphasis, and questioning been accounted for in transformational generative grammar? All three processes are usually represented by means of a sentence-initial marker in the deep structure. To this extent, some relationship among these processes is suggested, but since the notion "similar deep structure" has no theoretical status, no actual claim about relationship is made in such accounts. Klima (1964) went a step further by assigning the feature "affective" to both questions and negative constructions. To represent natural classes by inventing new features in uneconomical and arbitrary (Zwicky 1968). Thus, we conclude that the observed resemblance among the three syntactic processes has remained unexpressed in transformational grammars.

The proposal made here is to assign partially-identical deep structures to negative, interrogative and emphatic constructions, by positing AXB $A\bar{X}B$ (where $\bar{X}$ stands for NOT-X) as included by all three. Pronoun-"spelling", auxiliary-support, and clefting rules, as well as ordering

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[12] The two types of emphasis, corresponding to what we here label "sentence-level" and "phrase-level" emphases, were pointed out to me by F. Householder. He labels the first kind "yes-emphasized", because what is emphasized is that the action did not not take place, and the second as "this-emphasized", since what is emphasized is that particular verb, as opposed to some other commutable verb. He also points out that all yes-emphasized verbs must have auxiliary support.

and stressing would then apply to non-identical constituents (i.e. X and NOT-X).[13] Respective surface structures would then be derived by deletion rules. The implication of this claim is that all question, negative, and emphatic constructions are two-sentence-structures on an abstract level.

This account appears to be good for explaining properties shared by all three of these processes discussed. It should be pointed out, however, that there are some features that questions and negative constructions share but emphatic ones do not. Such is some-any suppletion in ENGLISH (compare Hall 1963, 3; this of course occurs in other constructions as well, as it is pointed out there), the fact that a, the indefinite article in ENGLISH, is generic in questions and negative constructions (Jackendoff 1969, 233) and that negative constructions and questions show inversion in some Negro dialects of ENGLISH (Labov 1970). This would show that the relationship between negation and questioning is closer than that between either of these and emphasis. Our account is not able to provide for this.

2.4.3 Question-answer relationship. Looking at superficially disjunctive questions and their most common answers, such as Do you ski or don't you? Yes, I do. or No, I don't., an obvious generalization leaps to the eye: that answers are selected from the class of alternatives specified in the question. Whereas this generalization would explain the choice of answers to superficially disjunctive questions, it does not explain, however, why either of the two answers above is appropriate also to the question Do you ski?, since No, I don't. has no representation in the "visible" structure of the question. The generalization, however, can be made to encompass a larger number of cases if we do, indeed, assume, that both the affirmative and the negative alternative are represented in

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[13] See Sanders 1967, 241ff where it is proposed that this principle governs contrastive stressing.

the question structure, regardless of whether they both actually get realized (i.e. the question is an alternative question) or not. It is in this sense that the observation about question-answer relationships is a piece of corroborating evidence for an underlying X OR NOT-X.

2.4.4 Meaning. Finally, apart from any syntactic considerations, whether they relate to sentential or discourse syntax, just by considering what yes-no questions mean and trying to set up an underlying representation that matches this meaning, one would conclude that an X OR NOT-X component should be part of this underlying structure, since it is true for all yes-no questions that they raise basically two alternatives: the truth of a proposition and the falsity thereof.

2.5 Some thoughts on rules. Provided that we have a X OR NOT-X type underlying component for yes-no questions, what are the rules that would be needed in order to derive surface structures of various yes-no question types? We will consider here only two kinds of these rules: deletion rules and the one which assigns intonation.

There are three different deletion rules that appear to be necessary: one that deletes the part of the second conjunct which is identical with the first conjunct, one that deletes the negator and one that deletes the connective. The following list indicates which deletions are necessary for the derivation of which type:

x or not-x: none

x or not: conjunct deletion

x or: conjunct deletion, negator deletion

x not-x: connective deletion

x not: conjunct deletion, connective deletion

x: conjunct deletion, negator deletion, connective deletion.

Of these three deletion rules, only the first, conjunct deletion, appears motivated, in that it is an identity deletion. The other two are unique and not justifiable in token or in type outside the realm of yes-no question. That is to say: or-s and not-s, are not deletable in other constructions unless the identity condition is fulfilled, nor are any other comparable connectives or particles. An alternative solution to avoid at least the connective deletion rule will be discussed later (3.4.3.).

In connection with the rule assigning intonation to yes-no questions, with respect to superficially simple yes-no questions such as Does he listen?, this rule would be able to make use of the underlying disjunctive structure only if it applied prior to the rules which result in the deletion of the negative conjunct. In other words, as Langacker noted (1970), a phonological rule would have to be wedged in among syntactic ones. This mechanism is in need of independent support.

3. The Request

3.1 The problem. Thus far we have been discussing properties of yes-no questions which are not unique to them but are also shared by disjunctive statements. Such properties were some of the meaning of yes-no questions, the presence of disjunctive and negative elements ('or'-s and 'not'-s) in some such questions, their intonation, the presence of some emphatic elements and properties of order and stress. These shared features of disjunctive statements and yes-no questions have been taken to justify the proposition that yes-no questions have, in fact, as part of their underlying representation, a structure which is also the underlying representation of disjunctive statements, or part of it.

From looking at the discourse context of some sentences which have the position and function of yes-no questions in a discourse, it is not at all obvious that anything else is needed for the abstract representation of these sentences. Some disjunctive statements seem to be responded to just as if they were questions, such as the one in the following discourse: Speaker A: She must have left it either in her office or in her car. Speaker B: Yes, she left it in her office.

There is a crucial difference, however, between this kind of discourse and one involving a real question (Did she leave it in her office?): that an answer is required in the latter case, while it is encouraged but not required in the former.[1] Thus in spite of such sentences the fact remains that questions are a distinct class of utterances with specific semantic and syntactic properties; and that these properties would remain unaccounted for by an abstract structure which consists of X OR NOT-X only. What exactly are the differences between disjunctive statements and

[1] Householder (p.c.) differentiates statements which disclaim knowledge but exhibit indifference towards obtaining it from real questions by a feature (± Hearer) indicating hearer's involvement.

yes-no questions and what kind of abstract structure would have to complement X OR NOT-X in order for these differences to be derivable from it?

There are two main questions that we would like to ask about these differences: Are the differences between disjunctive statements and yes-no questions properties which are at the same time shared by yes-no questions and some other constructions? And do the differences between disjunctive statements and yes-no questions hold between these two sentences types or between some larger chunks of discourse of which such sentences are only a part?

Answers to these questions determine the scope and the domain of the generalizations that the abstract structure should make about yes-no questions. In addition to properly choosing scope and domain, we also require that the total logical derivation of yes-no questions which includes the underlying structure and a set of rules should have predictive power with respect to the specific differences that are found between disjunctive statements and yes-no questions; i.e. it should be such that the particular differences that are attested in the languages of our sample should not seem to be arbitrary; e.g. that the possibility of some systematic way of marking sentence subjects if the sentence is a question should be excluded.

We will first survey the set of semantic and grammatical differences between statements and questions (3.2. and 3.3.); subsequently we will draw conclusions concerning each of these two questions mentioned above thereby defining what an abstract structure of questions to complement X OR NOT-X we expect to be like (3.4.1.). Next, we will discuss proposals concerning the abstract structure of yes-no questions that have been made by various linguists (3.4.2.); and, finally, we will advance an alternative solution (3.4.3.).

3.2 Some semantic differences between disjunctive structures and yes-no questions. Semantically, yes-no questions differ from disjunctive statements in that they also convey a request on the speaker's part for the specification of which of the alternatives raised is true. In other words, the semantic differences between Either my teacher is a Dane or he is not a Dane. and Is my teacher a Dane? is adequately expressed by complementing the first sentence by Tell me, to read: Tell me either that my teacher is a Dane or that he is not a Dane.

As it is obvious from this paraphrase, this difference between disjunctive statements and yes-no questions also lumps yes-no questions together with imperatives in the sense that imperatives,too, are requests.[2] Many imperatives, however, do not offer a choice as to what the hearer should say -- in the sense in which Say "cheese", please! does not -- or they may constitute requests for some unspecified verbal performance (in the sense in which Call tomorrow! does); or else they may not require any verbal performance at all (e.g. Go!). Yes-no questions are, therefore, semantically a subclass of imperatives.

From synonymy pairs such as Who is your cousin? and Tell me who is your cousin! it is clear that wh questions, too, are requests and thus a subclass of imperatives. From examples such as I want you to tell me whether it rained at the time. it is clear that at least some indirect questions, too, have the same semantic property. Thus, we conclude that all direct questions whether yes-no or wh, and some indirect ones constitute together a subclass of imperatives.

On the other hand, from the synonymy of Tell me your name! and I ask you to tell me your name. it is clear that imperatives are a subclass of declaratives. In particular, they are semantically equivalent to declarative sentences embedded in a matrix sentence of the sort

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[2] Loeser (1968, 24-25) does not think questions and imperatives share this semantic characteristic; to him, a question expresses a search for an answer but not a command that one be given.

I ask you. We therefore conclude that if the abstract representation of all questions, including yes-no questions, incorporates, in addition to X OR NOT-X, a structure paraphrasable as I ASK YOU TO TELL ME, that representation would be adequate inasmuch as it would properly differentiate the meaning of yes-no questions from that of disjunctive statements and, at the same time, it would express the semantic relationship between yes-no questions, wh questions, whether direct or indirect, on the one hand, and independent and embedded imperatives, on the other.

3.3 Some syntactic differences between disjunctive statements and yes-no questions. Let us first consider the discourse context of questions and disjunctive statements. Questions -- all independent ones and some indirect ones -- are characteristically followed by an answer. Does this property differentiate them from disjunctive statements; and if yes, does it differentiate them from all other constructions as well? The answer to this question is that many statements and a number of other constructions are also normally followed by some sentence intuitively felt to be a response; but that the kind of response questions require may well be unique to them.

Sentence types other than questions that are characteristically followed by a response are imperatives, greetings, and some types of declarative sentences definable either in semantic or in syntactic terms. As it was pointed out in an anticipatory discussion on pp. 8ff, greetings, imperatives, and questions differ from each other both in the degree to which verbal answers are expected to them and also by the rules which define a "proper response" to such stimulus sentences.[3]

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[3] On greetings, besides Ferguson 1968, see Fries 1952, 29ff, Searle 1969, 66-67, also Dressler 1970 where anaphoric deletions in responses to greetings are discussed.

As for declarative sentences, Sacks (1970, chapter 6) points out that challenges, threats, warnings, offers, invitations, complaints and announcements all are first members of paired utterances and are used to select a next speaker in a conversational sequence. Schegloff's (1968) summon-answer pairs (as in a telephone conversation) also involve declarative sentences followed by a response. Besides such semantic classes of declarative sentences, there are some syntactically definable classes also which are characteristically followed by a response. Such are disjunctive statements, (e.g. You were born either in Alabama or in Louisiana.), sentences with indefinite noun phrases (such as You wanted to say something.) and others. Bellack, Kliebard, Hyman, Smith (1966, 102ff) discuss the mode of presentation in classroom situations. They conclude that questioning can take place in the imperative mode, in the interrogative mode and in the declarative mode. The examples for answer-eliciting statements that they give are the following:

1. "It can also be due to factors that we haven't mentioned at all."
2. "Two of the biggest things that we import in this country we do produce ourselves."
3. "Of course, we discussed the great exception to this rule yesterday."

Of these, it is interesting to note that the first two involve indefinite noun phrases.

Finally, it should be pointed out that all statements, in fact, can be followed by responses which express agreement or disagreement or which are just signs of attention on the part of the hearer. One becomes particularly aware of this if one listens to a sermon in a Black church community or to any other speech attended by Black American audience. Fries, in fact, who classifies all utterances as communicative vs. non-communicative, classifies all statements as communicative in that they elicit signals of attention, just as greetings, calls and questions elicit oral responses and commands or requests elicit action responses -- as opposed

to non-communicative sighs etc. (1952. 29ff). Similarly, Householder (p.c.) contends that all statements are meant as summons to the hearer to believe what is asserted.

It is because of such facts that questions cannot be said to be unique in that they are followed by an answer; although they may be unique in that they require one, as well as in what kind of answer they require. This latter point will be taken up in the last chapter of this thesis.

Having considered the discourse context of yes-no questions and statements, let us now consider their sentential syntax. As individual sentences, yes-no questions differ syntactically from disjunctive statements in various languages by one or more of the following properties:

a/ word order

b/ the presence or absence of particles and adverbs

c/ verb inflection

d/ the shape and deletability of the disjunctive connective

e/ the deletability of the negative alternative.

We will next discuss each of these.

a/ As to word order, Ultan observed (1969, 48f) that inversion is an uncommon interrogative device in yes-no questions, but widespread in wh questions. Although direct and indirect yes-no questions are similar in many respects, word order rules that apply to them are not always the same. An example where direct and indirect yes-no questions have different word order is GERMAN. A language where these two types of questions have the same word order which, at the same time, is distinct from that of declarative sentences is BLACK and COLLOQUIAL ENGLISH, as well as some historical dialects of ENGLISH (cp. BLACK ENGLISH Could he go? and I asked could he go. (C.A. Ferguson. p.c.))

b/ The distribution of question particles shows better than word order does that direct and indirect yes-no questions belong to the same class, as opposed to statements. Here are some examples. (For additional languages, see Kretschmer 1938, 40ff.)

FANTE: aná /anée 'or' is a question particle occuring in non-alternative independent questions; e.g. iríko anée 'Are you going?' (Welmers 1946, 57). The particle can also occur in non-alternative dependent questions, e.g. kfwe sè owo fie ànã́ "go-look whether is at-home or" 'Go and look whether he is at home!' (Christaller 1875, 94)

FINNISH: ko in independent question: tuleeko hän 'Will he come?'
ko in dependent question: en tiedä, tuleeko hän 'I don't know whether he will come.' (Lehiste 1963, 453)

HUNGARIAN: e in independent question: vajon jön-e "whether comes-question" 'Is he coming?'
e in dependent question: nem tudom vajon jön-e 'I don't know whether he is coming.'

Also OLD CHURCH SLAVIC li (Vondrák 1928, 456f).

The relationship between yes-no questions and wh questions, on the other hand, is born out to a lesser extent by the criterion of shared particles, in that this phenomenon appears to occur sporadically only.

The few languages observed where yes-no questions and wh questions do share particles are AGTA (hud), BURJI (-da; M. Bender, p.c.), ENGA (-pe, Lang 1970, 42, 83), JAPANESE (ka), and OLD CHURCH SLAVIC (li; Vondrák 1928, 451). In TELUGU, the use of the question particle is obligatory in yes-no questions and optional in wh questions.

c/ In some languages verb inflection marks questions. There is a special question mood described for MAJI (Keefer 1969) used both in yes-no questions and in wh questions. In MODERN SCOTTISH GAELIC, a special mood is reported to be used both in direct and in indirect questions (Carmody 1945, 218). In GOTHIC, either indicative or subjunctive can be used in questions and the rules for choosing are the same in independent and dependent questions (Streitberg 1906, 240). There is a special question conjugation in WELAMO (Ohman and Fulass

1970) as well. See also Kretschmer (1938, 44ff). In HAUSA, the aspect prefixes of the completive and continuative aspects are different in statements from those in questions and relative clauses (Eulenberg 1970, 24).

What is common to these syntactic devices is that they have been observed in some languages only and that at least in some cases not only yes-no questions but also wh questions share them. Next, we will consider two classes of properties of yes-no questions both of which are specific to direct and indirect yes-no questions, as opposed to wh questions, and both of which may have a good chance of being universals. These properties relate to the shape and deletability of disjunctive connectives and the deletability of the negative alternative.

d/ The shape and deletability of the connective in disjunctive questions and disjunctive non-questions. Since, in principle, any number of sentences or phrases can be disjunctively connected and the connective between any two of these could be different in shape from the others, there is no end to the logically possible variation of distinct disjunctive connective sets. There are some general observations, however, which indicate that the actually observable variation is much more limited. First of all, disjunctive connective sets have apparently never more than two members that are different in shape; and non-first members are always identical. To illustrate the point, there is no construction in any language comparable to either Mary, or John, x Jim, where x stands stands for a disjunctive connective different in shape from either and or and, likewise, there is no either Mary, either John, or Jim. These generalizations allow us to restrict our attention to not-longer-than-binomial connective sets. We will consider disjunctive connectives in three constructions: direct yes-no questions, indirect yes-no questions and non-questions. How could these sets differ from each other? First of all, there could be languages with three distinct sets as different from

each other as A...B, C...D, and E...F. Besides this case of maximal difference, the three sets could be different in a number of other ways; in particular, assuming first that the second member is different in all three, the first member could be the same in any two sets (and there are three possible pairings of three sets) and it could be the same in all three sets:

(X)...B, (X)...D, (X)...F

(X)...B, (X)...D, E...F

(X)...B, C...D, (X)...F

A...B, (X)...D, (X)...F,

where (X) marks the identical connectives and other letters the different ones. Then, with the first member different in all three sets, the second could be the same in all three or in two; and then various combinations of differences between first and second members are also possible. Two additional empirical generalizations, however, provide a further limitation on the number of different connectives sets that we have to be dealing with. One is that no sets of disjunctive connectives have been found to differ in their second members but not in the first in any language.[4]

The other is that for the three constructions that we are considering in no language have three sets been found that are different in both of their members, but only two at most. In other words, the only variations

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[4] This is a generalization of a very wide scope. It applies to disjunctive connectives distributed over constructions other than direct questions, indirect questions, and non-questions. Also, it may apply to conjunctive connective sets as well. The generality of the statement is also supported by the fact that it seems to correspond to a regularity about deletion: that the deletion of the second member of a connective set always implies the first one having been deleted. The two observations can be collapsed in the following manner: if two connective sets differ from each other in a way that affects only one of the members -- whether it is by deletion or in difference in shape -- it is the first member that exhibits this difference. Putting it in another way, the second member appears to be the "stable" one, both by resistance to deletion and by resistance to variability.

in shape that have been observed in disjunctive connective sets of direct and indirect questions and non-questions are the following:

all three sets the same (X...Y, X...Y, X...Y, where X and Y may not be the same)

two sets the same, the third different in both members (X...Y, X...Y, A...B)

two sets the same, the third different in the first member only (X...Y, X...Y, A...Y).

Since we now have two distinct sets at most and three different contexts (direct questions, indirect questions, and non-questions) and two sets can be distributed over three contexts in three different ways, the question arises as to which two of the three contexts ever occur as having the same set. The answer has been found to be the following: non-questions and direct questions, or non-questions and indirect questions are never lumped together: it is always the two question contexts that have the same set as opposed to non-question contexts. The range of variation is therefore the following: same set for all three contexts, same set for questions and different for non-questions; and then this latter has two subclasses depending on whether the difference is in both members or only in the second:

non-question:	direct question:	indirect question:
X...Y	X...Y	X...Y
A...Y	X...Y	X...Y
A...B	X...Y	X...Y

Of 26 languages considered from this point of view, 11 were found to have disjunctive connectives identical in independent and dependent questions and different in non-questions; ?have disjunctive connectives belonging to the type where the non-question set exhibits partial similarity to the question sets in that the second members are identical but the first are different; and 8 were found to have one single set in all

three construction types.[5]

Non-question and question connectives totally distinct:

KANNADA (-ē versus āthavá)

LATIN (aut versus an)

LITHUANIAN (arba versus ar̃)

VIETNAMESE (hoặc versus hai)[6]

(AMHARIC (wayəm versus wayɪs))

(SYRIAN ARABIC (ʔaw, yā, yamma, ʔamma, yəmma, ʔəmma, versus wəlla))

(BURIAT (ygii versus ali))

(GOTHIC (aíþþáu versus þau))

(MANDARIN CHINESE (hwòshr versus haíshr))

(YORUBA (tàbí versus àbí))

TIGRINYA (wǎy(am) versus wáyas, wáyaməs (Leslau (1941, 147) notes that wǎyas is etimologically derived from wǎyam.)

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[5] Some languages that belong, by token of some of their disjunctive connectives, to the first or the second type also belong to the last one: i.e. in addition to two connective sets, one used in non-questions and the other in the two question-constructions, there is also a connective that can be used in all three. In AMHARIC, for instance, wayəm is used in non-questions and wayɪs in questions most of the time, but wayəm can also be used in questions. The pattern is the same for the rest of the language as well: it is always the non-question OR that can also be used in questions to freely vary with the question-OR and not vice versa. This may count as evidence that the use of disjunctive connectives spreads from non-questions.

[6] VIETNAMESE is on the verge of being a counterexample. There are two OR-s, hoặc used in statements and hay used in questions and statements. Emeneau (1951, 202) gives an example of a dependent question, where either hay or hoặc can be used as a connective, the two being in free variation; although we would expect hay to be used only. ETHIOPIC may be a real counterexample in that both disjunctive connectives used in dependent question are different from both of those used in independent questions, and one of these is identical with one of the ones used in statements.

Non-question and question connectives partially distinct:

ENGLISH (either ...or versus whether...or)

EWE (aló versus lóo(aló))

FINNISH (joko...tai versus jos...tai)

GERMAN (entweder...oder versus ob...oder)

HUNGARIAN (vagy...vagy versus vajon...vagy)

SERBO-CROATIAN (ili...ili versus dali...ili)

SWAHILI (ama...au versus kama...au)

(ANCIENT GREEK) (ē...ē versus poteron...ē)

(BULGARIAN) (ili...ih versus dali...ili)

Non-question and question connectives identical:

BASQUE ala

FULANI ko

HAUSA ko

JAPANESE ka

LATVIAN vai

POLISH czy

AMHARIC wayəm

SYRIAN ARABIC ʔaw, yā, yamma, yəmma

BULGARIAN li

BURIAT ali

GOTHIC aíþþáu

ANCIENT GREEK ē...ē

MANDARIN CHINESE hwòshr

YORUBA tàbí

This closes our discussion of the shape of disjunctive connective sets in yes-no questions versus non-questions.[7] Next we turn to

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[7] A full discussion of the shape of disjunctive connectives would also have to include negative forms. For some crosslinguistic data on this, see Jespersen 1917, 103ff. and Moravcsik 1971.

conditions on deletion. First, let us make a generalization which holds for disjunctive connective sets in any constructions, and, in fact, for conjunctive connective sets as well (cp. Sanders 1967, 148, 153 and Dik 1968, 41f): that all but the last connective may be omitted (and sometimes the last one, too) with the stipulation that a deleted connective cannot follow a non-deleted one. To illustrate the point, there is either Mary or John or Jim, Mary or John or Jim and Mary, John, or Jim but no either Mary, John, or Jim. Thus, the possible questions that remain to be asked are these: first, is this deletion of not-last connectives ever obligatory? second, when is the last connective deletable? Symbolizing the first member of disjunctive connective sets by EITHER and the last member by OR, the problem is what features of linguistic context determine whether EITHER...OR, OR, or zero is used.

Considering first the distribution of EITHER...OR as opposed to OR, the following can be said about our language sample. The majority of the languages do offer a more or less free choice of using either EITHER...OR or OR, in sentences other than alternative questions i.e. in declarative sentences, for instance, such as He gave it (either) to Mary or to Jim. The choice can be said to be more or less free, with EITHER...OR generally said to be more emphatic.[8] Of 37 languages, 32 seem to show this pattern, such as AMHARIC (e.g. (wəyim) set wəyim wənd 'either woman or man'), HUNGARIAN (e.g. (vagy) John vagy Mary jön 'Either John or Mary is coming.'), or MANDARIN CHINESE (jèige (hwò)shr húngde hwòshr búshr húngde 'It is either red or not red.'). In one language, YORUBA, there is explicit evidence that there is no EITHER...OR in non-embedded sentences; in four other

[8] Dik claims (1968, 44f) that n-membered connectives always imply more emphasis than corresponding n-1-membered ones. Householder (p.c.) thinks EITHER...OR marks exclusive disjunction whereas OR is ambiguously exclusive or inclusive.

languages there may be an EITHER...OR but no evidence has been found to show this. On the other hand, in KOREAN only a two-membered connective was found and no single OR.[9]

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[9] The total list of languages and the relevant forms are the following: (EITHER)...OR in statements:

AMHARIC (wayəm)...wayəm
ARABIC (SYRIAN) (ʔaw)...ʔaw
(ya)...ya
ARABIC (IRAQI) (ʔimma)...ʔaw
(loo)...loo
AZERBAIJANI ya...ya
BASHKIR yә...yә; yәkәy
BASQUE (ala)...ala
BENGALI (hay)...nay
(ba)...ba
BULGARIAN (ili)...ili
BURIAT нэгэ haa...ygii hao; ali
CHINESE (MANDARIN) (hwòshr)...hwòshr
DANISH (eller)...eller
ENGLISH (either)...or
FINNISH (joko)...ta(i)
FRENCH (ou)...ou
FULANI (koo)...koo
GERMAN (entweder)...oder
GOTHIC (jabai)...aiþþáu
(andizuh)...aiþþáu
GREEK (ANCIENT) (ē)...ē
HAUSA (ko)...ko
HUNGARIAN (vagy)...vagy
JAPANESE (ka)...ka
LATIN (aut)...aut
LATVIAN (vai)...vai
LITHUANIAN (ar)...ar
PANJABI (jan tan)...jan
PERSIAN (yā)...yā
POLISH (czy)...czy
QUECHUA -chu...-chu; chus
RUSSIAN (ili)...ili
SERBO-CROATIAN (ili)...ili
SWAHILI (ama)...au
TAMIL ēnum...ēnum; allatu
VIETNAMESE (hoặc)...hoặc

Although conjunctive connectives -- i.e. BOTH...AND-s -- have not been investigated in any detail, we venture to hypothesize that the rule of free variation between one- and two-membered connectives also holds for BOTH...AND versus AND. Whereas, however, it holds for these regardless of whether the sentence is declarative or interrogative (compare (Both) Jim and Peter left., Did (both) Jim and Peter leave?), the rule about disjunctive connectives has not been found to be valid for alternative questions in most languages. In particular, of 32 languages, 11 seem to have this rule of free variation also in independent alternative questions, but 21, the majority, that -- allow in alternative questions for a single OR only; i.e., they allow, just as ENGLISH, for Did Jim or Peter come? but not for *Did either/whether Jim or Peter come? (in the same "focused-on" disjunctive sense).[10]

(Footnote 9 continued)

OR in statements:		EITHER...OR in statements:	
ETHIOPIC?	?aw	KOREAN?	-nah...-nah
GUJARATI?	athw(to); ke		
THAI?	rɤ̌		
TIGRINYA?	way(am)		
YORUBA	tàbí		

[10] It should be noted that I have found this restriction explicitly stated in perhaps none of the grammars consulted. Thus, for most languages, all I have drawn on is the lack of example sentences that are interrogative and that contain a correlative disjunction, as contrasted with the availability of statement examples of this sort. This lack of examples can of course be interpreted in many ways, in addition to assuming that it is due to a grammatical rule that excludes correlative disjunctions in questions. It may reflect frequency differences in favor of questions with a simple disjunction as opposed to ones with correlative ones, or it may also be an accident. It is rather the cumulative effect of the conspicuous lack of such examples in grammars, reinforced by explicit evidence against such constructions in those very few languages for which native informant was available, that our generalization is based on. The generality of the avoidance of correlative disjunctions in questions is in fact supported by the fact that grammars do not state this principle explicitly, since the explicitness of descriptive grammars, naturally most concerned with the peculiarities of the language they describe, is usually in inverse ratio with the cross-linguistic generality of linguistic rules.

Languages that allow both for EITHER...OR and OR can be examplified by HUNGARIAN (e.g. vajon jön vagy nem jön 'Is he coming or is he not coming?') and MANDARIN (e.g. jèige hwòshr/haíshr húngde hwòshr/haíshr búshr húngde 'Is it red or not red?'). An example of a language with a single OR in questions is AMHARIC:

correlative disjunction in statement: wayəm sʸet wayəm wànd 'either a woman or a man'(Cohen 1936, 312-313)

simple disjunction in question: irsasu Kəyy nəw, wəyis biCa 'Is the pencil red or yellow?' (Obolensky et al. 1964, 213)[11]

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[11] Other examples:

ARABIC (IRAQI): correlative disjunction in statement: štiri loo raggi loo tiffaaʕ 'Buy either watermelon or apples.' simple disjunction in question: š-tiṣṣawwar, raʕ-yiṣṣilha !-haš-šaġla loo laa 'What do you think, is he going to get this job or not?' (Erwin 1963, 307)

ARABIC (SYRIAN): correlative disjunction in statement: lāzem ʔāxod hal-bənt, yamma b-rəḍa mʕallmi yamma b-ġəṣmen ʕanno 'I must have that girl, either with my master's approval or in spite of him.' (Cowell 1964, 396); simple disjunction in question: daraže ʔūla yəmma daraže tānye 'First class or second class?' (preceded by someone saying 'Give me two tickets!')

FINNISH: correlative disjunction in statement: joko Matti tai Pekka tulee 'Either Matti or Pekka will come.' (Lehtinen 1962, 443) simple disjunction in question: tuleeko Matti tai Pekka 'Will Matti or Pekka come?'; cp. ungrammatical *tuleeko joko Matti tai Pekka (Mrs. R. Ultan, personal communication)

FULANI: correlative disjunction in statement: koo boɗeejo; koo ɓaleejo; koo irin woi 'a red man or a black man or whoever' (Stennes 1961, 42) simple disjunction in question: mi huuwata ɗum koo mi acha 'Shall I do it or leave it?' (Taylor 1953, 69)

GERMAN: correlative disjunction in statement: Entweder Jim oder Mary wird kommen. 'Either Jim or Mary will come.' simple disjunction in question: Wird Jim oder Mary kommen? 'Will Jim or Mary come?'; cp. *Wird entweder Jim oder Mary kommen? which is ungrammatical in the sense intended.

In order to state our observations about the distribution of EITHER...OR and OR, we have to refer to one more class of syntactic constructions, besides independent alternative questions and sentences

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(Footnote 11 continued)

GUJARATI: correlative disjunction in statement: (no example found)
simple disjunction in question: təhmahre cah piwi che, ke kOphi 'Do you want to drink tea, or coffee?' (Cardona 1965, 40)

HUNGARIAN: correlative disjunction in statement: vagy Jim jön, vagy Mary jön 'Either Jim is coming, or Mary is coming.'
simple disjunction in question: Jim jön vagy Mary jön 'Jim is coming, or Mary is coming?'; cp.*vagy Jim jön vagy Mary jön which is ungrammatical in the sense intended.

PERSIAN: correlative disjunction in statement: (no example found)
simple disjunction in question: qæhvé mixaid, ya 'abejów 'Do you want coffee, or beer?' (Obolensky et al. 1963, 4. 138)

SERBO-CROATIAN: correlative disjunction in statement: moramoili se boriti ili pobeći u šumu 'We must either fight or flee to the forest.'
simple disjunction in question: jel' hoćeš hefu ili čaj 'Do you want coffee or tea?' 'Do you want coffee or tea?' (Bidwell 1965, 243)

SWAHILI: correlative disjunction in statement: ama ni wewe ama ni ndugu yako 'Either it is you or it is your brother.'
simple disjunction in question: ndivyo ama sivyo 'Is it so or not so?' (Perrott 1965, 112)

The full list of relevant languages and connectives is the following:

(EITHER)...OR in independent questions:

BULGARIAN (dali)...ili
BURIAN (ali)...ali
GOTHIC (-u)...(aiþ)þau
GREEK (ANCIENT) (poteron)...ē
HUNGARIAN (vajon)...vagy
LATIN (utrum)...an; (an)...an
LATVIAN (vai)...vai
LITHUANIAN (ar)...ar
MANDARIN (hwòshr)...hwòshr; haíshr...haíshr
POLISH (czy)...czy
SERBO-CROATIAN (dali)...ili

different from these. This is the class of embedded alternative questions. Of 27 languages, 5 appeared to allow for free variation of EITHER...OR and OR in such constructions (e.g. HUNGARIAN (e.g. kíváncsi vagyok, (vajon) jön vagy nem jön 'I wonder whether he is coming or not coming.') and MANDARIN (e.g. wǒ yàu jrdàu jèige (hwò) shr/ (hái)shr húngde hwòshr/háishr búshr húngde 'I want to know whether it is red or not red.')) and 19 to require EITHER...OR (e.g. ENGLISH and JAPANESE: e.g. Osaka desu ka, Kobe desu ka wasuremashita 'I have forgotten whether it is Osaka or Kobe.'); and two languages, BENGALI and VIETNAMESE, have been found to apparently use OR only.[12]

(Footnote 11 continued)

OR in independent questions:

AMHARIC wəyəm, wəyɪs
ARABIC (SYRIAN) yamma, yəmma, wəlla
ARABIC (IRAQI) loo
AZERBAIJANI ya-
BASQUE edo, ala
BENGALI na, kɪ
ENGLISH or
ETHIOPIC ʔaw; wəmimɛ
FANTE anée
FINNISH vaɪ, taɪ
FRENCH ou
GERMAN oder
GUJARATI? ke, əthwa
HAUSA? ko
PANJABI jan
PERSIAN? ya
RUSSIAN ɪlɪ
SWAHILI au
TIBETAN? hana
TIGRINYA wəyɪmɪs, way(am), wayas
YORUBA àbí, tàbí

[12] The full list is the following:

(EITHER)...OR in dependent questions:

GOTHIC (-u)...(aɪþ)þau
HUNGARIAN (vajon)...vagy
LATIN (utrum)...an
MANDARIN (hwòshr)...hwòshr; (haíshr)...haíshr
YORUBA bí...bí; àbí

In sum, then, what we can state about the distribution of EITHER... OR and OR, i.e. two- and one-membered disjunctive connective sets is the following: the rule of free variation obtains for the majority of

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(Footnote 12 continued)

EITHER...OR in dependent questions:

ARABIC (SYRIAN) ʔam...wəlla
BASQUE -n...ala
BULGARIAN (da)li...li
CHATINO ta...ta
ENGLISH whether...or
ETHIOPIC ʔɨm(ɨ)/ ɨʔɨmɨ ...wɛ(ɨ)ʔɨm
FINNISH jokohan...tai/vai; -ko...vai
GERMAN ob...oder
GREBO ple...he
HAUSA? ko...ko
JAPANESE to...to; ka...ka
KOREAN či...či
LATVIAN? vai...vai
LITHUANIAN? ar̃...ar̃
PERSIAN? aya...ya; chih...chih; xvah...xvah
POLISH? czy...czy
RUSSIAN li...li
SERBO-CROATIAN? dali...ili
SWAHILI kama...au/ama

OR in dependent questions:

BENGALI na, ki
VIETNAMESE? hai, hoặc

In a number of languages there is an introductory connective before embedded alternative questions which is not a disjunctive connective and which occurs with or without one. In HUNGARIAN, for instance, there is Nem tudom, hogy jön-e vagy nem., Nem tudom, vajon jön-e vagy nem., where hogy is a subordinate sentence connective ('that'), and vajon corresponds to whether. In order to avoid counting subordinate sentence connectives as the first member of a disjunctive connective set, it is required for a morpheme to count as the first member of a disjunctive connective set that the sentence it introduces must always be possible to be completed by a semantically redundant sentence conjoined by OR. Thus, for instance, ENGLISH whether does qualify (I asked whether he understood me (or not).), but HUNGARIAN hogy does not quality as a first member of a disjunctive connective set, since it occurs, among others, in sentences such as Mondtam, hogy beteg. 'I said that he was sick.' and there is no sentence (except one whose predicate is a synonym

languages in sentences other than alternative questions. For independent alternative questions, the rule of free variation applies to about half of our sample, languages of the other half requiring OR by itself. In dependent questions, few languages have the rule of free variation and the majority require EITHER...OR.

Next, we will consider the presence or absence of OR.[13] Again, it seems that there is no generalization to make to cover both conditions under which OR and those under which AND can be deleted,[14] and that if we want to make a generalization about the disjunctive connective, we must distinguish alternative questions from everything else, just as above. Let us first consider sentences that are not alternative questions. As we have seen above for ARABIC (Cowell 1964, 398), and

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(Footnote 12 continued)
of 'sick') whose conjoining by OR to the original sentence would not alter its meaning. FINNISH jos, SYRIAN ARABIC ʔiza, IRAQI ARABIC idaa, and perhaps SWAHILI kama, although they all connect alternative embedded questions, are excluded as first members of a disjunctive connective set on the same grounds -- all of these also mean 'of' i.e. they also function as conditional clause connectors. It is interesting to note that such embedded question connectors are mostly 'that'-s or 'if'-s.

[13] Evidence to be presented below is counter to Sanders' observation, even if it is meant to hold for ENGLISH only: "While all connectives of a conjunction may be prosodic, every disjunction must contain at least one-prosodic connective" (1967, 148; 152). Rather, what appears to be true is that there are specific conditions for deletion of the last connective or whether conjunctive or disjunctive: for and, the condition is non-comitative conjoining, as Sanders points it out (1967, 152; also Dik 1968, 272) and for or, the conditional contexts are some neutral alternative questions, dependent or independent and a few other contexts, all of which are discussed below.

[14] For asyndetic conjunctive constructions, see Cowell 1964, 394ff (for SYRIAN ARABIC), Poppe 1964, 79 (for BASHKIR), Poppe 1960, 126, 128 (for BURIAT), Bos 1962, 46f (for DUTCH), Bailey, 134 (for JAMAICAN CREOLE), Vaccari 1942, 19 (for JAPANESE), Bright 1958, 33 (for KANNADA), Rand 1968, 50 (for MANDARIN CHINESE), Armbruster 1960, 437 (for NUBIAN), Watson 1953 (for YAGOH), Bergsträsser 1928, 16 (for Semitic languages); and also Dik 1968, 32f.

ENGLISH, there are some highly idiosyncratic idiom-like contexts which are semantically disjunctive and where disjunctive connectives may be omitted. Evidence for such contexts has been found also in BENGALI (Dimock et al. 1965, 370), GERMAN, HUNGARIAN, KANNADA (Bright 1968, 33; Spencer 1914, 95f), RUSSIAN, SWAHILI, TIGRINYA (Leslau 1941, 147) and YORUBA (Rowlands 1969, 172). Certain numeral phrases such as "two-three" are always among these contexts (note, however, that in AZERBAIJANI, "or" must not be used in such approximate numbers (Householder and Lotfi 1965, 102) and that in MODERN GREEK "and" is used.) Other relevant declarative contexts exemplified in grammars are hard to generalize about and seem to be almost idiomatic, such as SYRIAN ARABIC ʔalla yarháma ḥayye mayyte 'God have mercy upon her, alive or dead.' (Cowell 1964, 398). Considering now alternative questions, it has been found that, in sharp contrast with the idiosyncracy of the semantic-syntactic conditions under which the deletion of OR is possible in sentences other than alternative questions, if the deletion of OR is possible at all in a language in an alternative question, it is in fact possible in all such questions, without further restrictions. In some of these languages, such as AMHARIC, ENGA, HUNGARIAN, LATIN, and MANDARIN, the same deletion appears possible in embedded alternative questions. In fact, no evidence has been found thus far counter to the claim that OR-deletion never distinguishes between independent and embedded questions in any language.[15]

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[15] Some examples of zero connective in independent questions:
AMHARIC: malkam naw kəfu 'Is he good (or) bad?' (Cohen 1936, 312f)
HUNGARIAN: jön, nem jön 'Is he coming? is he not coming?'
KOREAN: i kes iey yo, ce kes iey yo 'Is it this one(or) that one over there?' (Martin et al. 1969, 17)
MANDARIN: nǐ máng bu máng 'Are you busy (or) are you not busy?' (Elliot 1965, 57)
TIGRINYA: sübbuq dayyu həmmaq 'Is he good (or) bad?' (Leslau 1941, 147)

This ends our investigation of the conditions that determine the presence or absence of EITHER-s and OR-s. Notice three shared properties of the generalizations that have been suggested. First, all of

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(Footnote 15 continued)

Examples of zero connective in dependent questions:

AMHARIC: madrəg(en wəyim) alamadrəgen alnəgrihim "doing-my(-object - marker or) not-doing-my-object-marker I-am-not-going-to-tell-you" 'I am not going to tell you whether I'll do it (or) not.' (Obolensky et al. 1964, 433-434)

ARABIC (SYRIAN): mā btafre? maʕi béda söda 'I don't care whether it's black or white.' (Cowell 1964, 398)

HUNGARIAN: nem tudom jön (vagy) nem jön 'I don't know whether he is coming (or) not coming.'

PANJABI: mera kīá na kiá ik bərābər "my saying not saying is equivalent to one" 'Whether I say so or not doesn't make any difference.' (Gill 2ooff)

The full list of languages is the following:

∅R in statements:
ARABIC
BENGALI
GERMAN
HUNGARIAN
KANNADA
RUSSIAN
SWAHILI
TIGRINYA
YORUBA

∅R in independent questions:
AMHARIC
BASHKIR
BENGALI
BURIAT
ENGA
HUNGARIAN
KOREAN
LATIN
MANDARIN
TAMIL
TIGRINYA
VIETNAMESE

∅R in dependent questions:
ARABIC
ENGA
HUNGARIAN
LATIN
MANDARIN
TIBETAN

them are specific to disjunctive connectives, although before we saw that there are some true generalizations that encompass both conjunctive and disjunctive connectives. Second, in order to speak about the distribution of two-membered versus one-membered versus zero-membered disjunctive connectives, we had to refer to the syntactic class of alternative questions as distinct from other sentences. Third, whereas the class of alternative questions probably behaves homogeneously from the point of view of the presence and absence of OR, it does not so behave with respect to the presence and absence of EITHER.

To sum up our observations concerning the shape and deletability of disjunctive connectives:

1. The deletion of a member of a connective set implies the deletion of all of the members to its left (as observed, on a cross-linguistic basis, by Sanders and Dik).

2. Non-first members of a connective set are always identical with each other within that set.

3. EITHER...OR and OR are generally in free variation in sentences other than alternative questions; EITHER...OR is generally required for dependent questions and EITHER is generally excluded in independent questions.

4. OR is deletable in some languages in all -- i.e. independent and embedded -- alternative questions and in some languages in highly idiosyncratic non-question contexts.

5. If in two disjunctive connective sets the second member is different, so is the first.

6. Disjunctive connectives used in embedded and independent alternative questions are generally identical in shape.

7. The fact that disjunctive connectives are more widely deleted in alternative questions than in alternative statements seems to have a parallel in another observation which is also about the redundancy of a

constituent in yes-no questions and the non-redundancy of the same constituent in disjunctive statements. The observation is this: the negative alternative is deletable in all alternative questions perhaps in all languages; but it is not deletable in the corresponding non-questions; e.g. Is it hot? is synonymous with Is it hot or is it not hot?, but It is hot. is not synonymous with It is hot or it is not hot.

3.4 How is the questionhood of yes-no questions to be represented in the deep structure?

3.4.1 A summary of requirements. On the basis of all these facts discussed above, we will now answer the two questions raised in the beginning of this chapter about the nature of the difference between disjunctive statements and yes-no questions. The answer, along with the requirement of specificity mentioned there are taken to constitute requirements for what the abstract structure of yes-no questions, in addition to containing X OR NOT-X, should be like.

The first question was one about scope: whether yes-no questions are to be related to constructions other than statements. The answer is that yes-no questions are similar in certain respects to indirect questions and to wh questions as well as to other constructions such as imperatives, greetings and certain statement-types.

As to the second question, the domain of these properties, we observed them both with respect to sentences and also with respect to discourse contexts.

Finally, what about the requirement of specificity? Whereas we have not been able to make any generalizations extending to all of our sample about word order, particles, and verb inflection, we did find that such generalizations can be made in connection with the shape and deletability of disjunctive connectives and the deletability of the negative alternative. We would therefore like to set up an underlying structure for yes-no questions such that it, along with the rules that apply to it,

becomes explanatory of such widespread facts as the question-specific shape of disjunctive connectives, and their frequent redundancy in yes-no questions, as well as the redundancy of the negative alternative.

3.4.2 Some proposals: Q-theory, performative theory. Transformational theories of "questionhood" all share two properties: they differentiate questions from other constructions in the deep, rather than in the surface, structure; and they differentiate them as a sentence type rather than in terms of a discourse type. On the other hand, these theories differ from each other with respect to the extent in which they account for syntactic properties of questions. From this point of view, their claims can be classified into two classes:

1. Questions should be distinguished from non-questions by an underlying question marker which has semantic but no syntactic structure.

2. Questions should be distinguished from non-questions by an underlying question marker which has both semantic and syntactic structure.

The first approach is exemplified by Katz and Postal's account (1964, 85-90), according to which there is a question marker in the deep structure of questions which they call Q. This marker has the semantic interpretation I ask you to tell me. Since Q is supposed to be a single, unstructured and syntactically unanalysed marker of questionhood, there is no specific prediction associated with it as to just how questions should differ syntactically from statements. Katz and Postal use Q to enable them to formulate cooccurrence restrictions on adverbs such as certainly in ENGLISH, which do not occur in questions and to trigger question-specific transformations such as inversion; but Q could be used to mark questions to differ from statements in any other arbitrarily chosen ways as well and to this extent this question marker fails with respect to the requirement of specificity: it does not distinguish between true and false claims about the respective grammars of questions and statements.[16]

[16] Compare Koutsoudas 1968.

The only structural property that Q has is its specific relation to the sentence it marks: that it is, in Katz and Postal's formulation, sentence-initial. This is obviously one of many possible choices of ordering and since Katz and Postal did decide on a particular alternative, rather than positing unorderedness which would have been a way of evading the problem, this would suggest that there was some motivation for them to do so. Whereas this motivation was not made explicit by Katz and Postal, Baker (1970) did exploit the explanatory power inherent in ordering claims with respect to Q. He correlates the order of Q with the order of question particles and question pronouns in a sentence. Thus, for ENGLISH, he accepts Katz and Postal's sentence-initial Q, because of the fact that if, whether, and the wh pronouns are all sentence initial in this language. For languages where the question particle is sentence-final, he posits a sentence-final Q.

Katz and Postal's Q not only does not make syntactic claims about the statement-question contrast; it also appears to fall short of relating questions, semantically or syntactically, to constructions to which they bear resemblance. Imperatives, according to Katz and Postal, have a separate marker which shares no properties with Q other than sentence-initiality. Indirect questions are not assumed to have a Q in Katz and Postal 1964, although they do in Baker's account (1970) which is based on theirs.

The second approach is exemplified by Ross and Sadock's theories. Ross (1970) posits a sentence paraphrasable as I say to you into which all declarative sentences are embedded in the deep structure. For questions, he suggests that the performative should read I request of you that you tell me (293).[17] Sadock (1970a) posits a sentence whose subject

[17] The theory of a performative sentence incorporated in transformational grammar was first suggested by Harris 1965. Cp. also Sanders (1967, 84f, 133ff) who posits a Tell me either that...or that... type deep structure for yes-no questions. See also Hetzron's "question frame" consisting of I don't know or I ask you to tell me (1969, 27ff).

noun is the speaker, whose object noun is the hearer and whose verb is a verb of saying responsible for the type of the sentence which is embedded in this hyperstructure -- whether it is declarative, interrogative, or imperative.

All the differences between the two theories stem from different degrees of abstractness that they assume for their performative sentences. These abstractness differences relate to lexical realization, or "pronounceability", and whether performatives can be embedded or not. Ross' performative sentences are fully lexicalized ones which can be pronounced or they can be deleted. Sadock does not specify elements of the hypersentence to the extent that lexical insertion would be possible: hypersentences are entirely abstract structures that never surface. Also, Sadock allows for the embeddability of hypersentences as the object complement of ordinary verbs of saying in order to account for direct quotations, and he allows for the nesting of hypersentences in order to account for constructions such as echo questions. Ross claims that performatives cannot be embedded into ordinary sentences, but he tacitly allows one performative to be embedded into another; his question performative is a declarative performative embedded in an imperative performative.

It is the question of how to represent underlyingly overt performatives which made Sadock feel dissatisfied both with his own theory and with that of Ross'. In Ross' theory such performatives are not dominated by any higher structure, whereas constatives are dominated by a performative e.g. I christen this ship Golda would be derived from a structure paraphrasable as I declare to you that I christen this ship Golda. if the verb is meant in its constative sense but, in its performative sense, there would be no higher dominating structure. Thus the performative meaning is associated with the lack of something, as opposed to the constative meaning. In order to account for shared features of performative

and constative sentences in a motivated way. Sadock (1970b) posits that performatives are dominated by an abstract hypersentence embedded into an abstract superhypersentence, itself unembeddable.

The performative hypothesis is clearly a more ambitious one from the point of view of explaining syntactic properties of sentences than Katz and Postal's Q marker. It seems that of the various syntactic properties that are posited for performative sentences of declarations by Ross and Sadock the strongest case can be made for the existence of a first and a second person noun phrase. Syntactic reasons to posit a first person noun phrase and a second person noun phrase as occurring in the performative sentence associated with declarative sentences are of two kinds. First, it enables one to derive the personal pronominal forms I and you that occur in ordinary sentences without any overt nominal antecedent (such as in I want to go.), and some antecedent-less first and second person reflexive pronouns (such as in This was written by Mary and myself.) by ordinary rules of pronominalization and reflexivization, respectively. For a detailed discussion of how strange facts about the distribution of personal and reflexive pronouns in ENGLISH may be explained within a performative theory see Ross 1970 and also Sadock 1970b. For some criticism of Ross' data and proposed rules, see Anderson 1970. Second, the distribution of various subclasses of personal pronominal forms can also be accounted for in this manner. Sadock (1970a) points out that in languages such as YANA and DAKOTA, the sex of the speaker, and in JAPANESE, KOREAN, FRENCH, GERMAN, ITALIAN and KIKUYU the social-personal "distance" between the speaker and hearer determine the choice of certain pronominal forms. These decisive properties he proposes could be specified in the higher first and second person noun phrases.

The answer to whether the same arguments can be used to posit a first and second person noun phrase in performative sentences associated

with questions is claimed to be in the affirmative here, although a detailed presentation of relevant facts is omitted. We will just assume here that such noun phrases are posited and we will now turn to the question as to what kind of a syntactic construction contains these noun phrases.

If the performative is a full sentence, then, according to the simplest hypothesis, we would expect rules that operate on ordinary sentence constituents also to operate on performatives. Ordinary sentences can be negated, embedded, being embedded into, and conjoined, among others. Can these syntactic processes apply to performatives?[18]

The possibility of negating performatives has not been explored, but it does not seem unreasonable, both on semantic and on syntactic grounds, that sentence negation be represented on a deep level by performative negation.

Can performatives be embedded? As we have seen above, this is assumed in Sadock 1970a, b. One reason why this seems to be an important assumption is that in this manner we can relate questions to both imperative and declarative constructions. Assuming that the performative sentence of imperatives is a structure paraphrasable as I order you that...(you do such and such). and the declarative performative is I say to you, and assuming that performative embedding is possible, we can posit the question performative to be I order you that you say to me... . As it was mentioned above, this is the question performative suggested by Ross (1970, 293) and, in that it relates questions to imperatives, it

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[18] In addition, they should also take sentence adverbs. This property of performatives qua sentences can be exploited for explaining the occurrence of such adverbs as for the last time, first, finally etc. which show no occurrence relations with the sentences they cooccur with and seem, semantically, to refer to performative sentences (Sadock 1970a).

is superior to Sadock's proposal where there is a separate unanalyzable abstract verb corresponding to every sentence type.

The positing of this structure already assumes that performatives only be embedded but that they can also be embedded into. Further evidence that this is true is suggested by certain properties of questions which they share with subordinated constructions. The following facts all seem to make it plausible that questions are, on some level, subordinated constructions.[19]

In some languages there is a subordinative conjunction which occurs in embedded questions and, optionally, in independent questions. Such are HUNGARIAN hogy and WALBIRI yuŋu-. E.g. HUNGARIAN megkér-deztem, hogy kér-e "I-asked that he-wants-one-question" 'I asked him whether he wants one.'; WALBIRI pɨyi-ni ka-ɲa-ŋku yuŋu-npa tjapa tawunu-kura ya-nu. "ask-pres pres-I-you that-you whether town-to go-past" 'I'm asking you whether you went to town.' tawunu-kura tjapa yuŋu-npa ya-nu "town-to whether that-you go-past" 'Did you go to town?' where yuŋu- is the general subordinator and tjapa is the question complementizer (Kenneth Hale, p.c.)

Ultan (1969, 54) noted that in a number of languages -- as diverse as INDONESIAN, HUNGARIAN, and the Romance languages -- the relative and the question pronouns are morphologically identical or similar, just

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[19] That the same holds for statements is shown by two bits of evidence. One is a fact about ARABIC quoted by Ross 1970 that a particle which is obligatory for subordinated clauses can also be used optionally in independent sentences. The case of WALBIRI and HUNGARIAN to be mentioned below is an analogous one, for questions. The other is the above-mentioned hypothesis that first and second person personal pronouns and reflexives which occur in statements without antecedents can be derived by ordinary pronominalization and reflexivization rules. In order for this to be true, these pronouns to be derived must be in pronominalizable positions with respect to their antecedents in the performative which would be assured by the assumption that the performative is a superordinated sentence.

as it is the case in ENGLISH. Katz and Postal (1964, 125-130) make an attempt to derive these pronouns from a common source thus accounting for this fact of ENGLISH morphology. Stockwell et al. (1968, c30ff) argue against this analysis by pointing out that the two classes of pronouns behave differently from each other: Pied Piping does not apply to interrogatives but it does to relative clauses; there is phrases can occur in questions but not in relative clauses, there are only two relative pronouns but a number of question pronouns and question pronouns are "minus specific" whereas relative pronouns are either "plus" or "minus specific". The last argument they have against the identification of the two pronoun types is that relative pronouns are predictable by a standard pronominalization rule, whereas question pronouns are not.

If, however, questions are represented as embedded constructions, then the same pronominalization rule that predicts relative pronouns also predicts question pronouns and this last argument against the identification of the two pronoun types which are morphologically identical in some languages becomes invalid.

Finally, let us see what evidence we have for the conjoinability of performatives.

Peterson (1969) showed how certain facts of MORE and also of ENGLISH can be accounted for if we assume that performatives of declarative sentences can be conjoined in these languages. In MORE, there are two kinds of conjoined sentences: dependent conjunction, where the conjoined verbs express sequential or simultaneous action; and independent conjunction where there is no necessary connection between the two verbs. The connective is la in the latter case; in dependent conjunctions the connective is la if the subjects of the two sentences are identical and ŋ otherwise. He then proposes to account for the distribution of the two connectives, as well as for the semantic difference between the two types of conjunctions, by hypothesizing that in the case of dependent conjunction there is one performative to which both sentences are

subordinated, whereas in the case of independent conjunction each conjunct has its own performative and these performatives are conjoined. The la in these constructions, therefore, conjoins the two conjuncts only superficially; on an abstract level, it is a connective between two performatives. The distribution of la and ti can then be determined by a simple rule according to which la connects sentences of identical subject and ti connects sentences of non-identical subjects. Petersen claims that ENGLISH also has parallel constructions. Conjoined sentences such as John went home, and he went to bed, too are of the independent type, whereas John went home and went to bed, too, is of the dependent type. Besides semantic correspondance, the relationship between the corresponding MORE and ENGLISH constructions is shown by two observations. One is that in both languages certain markers have the whole sentence as their domain in the case of dependent conjunction and only one of the conjuncts in the case of independent conjunction. In MORE, for instance, there is only one declarative particle per dependently conjoined sentence, whereas both conjuncts have to have one if the conjuncts are independently conjoined; and in ENGLISH, too has only one of the conjuncts as its domain in the case of independent conjoining, as the above-given example shows, but it has both of them if they are dependent conjuncts. Second, constraints on subject deletion also seem comparable. In MORE, the second identical subject may be deleted in case of dependent conjoining but it must not be deleted in case of independent conjoining. In ENGLISH, subject deletion is obligatory in dependent conjoining (compare *John went home and he went to bed, too.) and optional in independent conjoining (compare John went to bed and (he) went to bed, too.)

If performatives of declarative sentences are conjoinable, performatives of other sentence types should also have this property. The following discourse in GERMAN is taken to provide evidence to this.

Speaker 1:	Möchten Sie Äpfel?	'Would you like some apples?'
Speaker 2:	Nein, danke.	'No, thanks.'
Speaker 1:	Und Bananen?	'And bananas?'

What consituents are connected here by und 'and'? Certainly not Äpfel and Bananen, since the two questions are not synonymous with Möchten Sie Äpfel und Bananen? The two questions are, however, synonymous with Möchten Sie Äpfel und möchten Sie Bananen? 'Would you like apples and would you like bananas?' In other words, in order to explain und in this discourse, we have to posit conjoined question performatives.

Further evidence for the conjoinability of question performatives comes from some observations about disjunctive connectives. How can we account for the difference between "focused" and "non-focused" OR-s, such as in Did John appear or was he sick? versus Did John appear or write a letter (or not)? Sentences such as the latter one with a "non-focused or" resemble dependent conjoining in that subject deletion is obligatory. In sentences with "focused or", subject deletion is optional, just as in independent-conjoined sentences. This similarity would suggest that the two types of disjunctively conjoined sentences be distinguished the same way in which the two types of conjunctively conjoined sentences were: by the number of performatives. Focused-on OR would thus be derived from the disjunctive conjoining of two performative; e.g. Did John appear or was he sick? would come from a structure paraphrasable as I order you either to say to me that John appeared or to say to me that (John didn't appear but) John was sick, and Did John appear or write a letter (or not)? from I order you either to say to me that John either appeared or wrote a letter or to say to me that he did not appear and did not write a letter.

Thus far we have listed some facts which can be explained if we assume that performatives can be conjunctively conjoined both in statements and in questions and that question performatives can be disjunctively conjoined. What about performative disjoining in statements?

The hypothetical structures would be the following: I say to you that he is an American or I say to you that he is a Dane. (performative conjoining) versus I say to you either that he is an American or that he is a Dane. (proposition conjoining). The question is whether these two constructions can be matched with any pairs of contrasting disjunctive declarative sentences.

Declarative sentence pairs that contrast by the shape and/or the semantics of their disjunctive connectives fall into the following classes:

1. He forgot to come or left town.
   He either forgot to come or he left town.

Such sentence pairs are generally said to differ in emphasis.

2. Either he left town or he didn't.
   Whether he left town or he did not, I do not care.

Here the difference is whether the choice matters or not. Disjunctive connective pairs of other languages that contrast as whether...or and either...or do in ENGLISH in contexts as the above are:

akár...akár... and ha(is)...ha(is)... versus vagy...vagy... in HUNGARIAN

o...o... versus aná in FANTE

soit...soit... versus ou ...ou ... in FRENCH

xot'a...xot'a versus ili...ili... in RUSSIAN

sive...sive... versus vel...vel... and aut...aut... in LATIN

eite ...eite... versus ē...ē... in ANCIENT GREEK

This type of connective is obligatorily two-membered; it is often identical with the disjunctive connective set used in indirect questions (e.g. in ENGLISH and in FANTE); or it is derived from a verb meaning 'be' (e.g. FRENCH) or from a verb meaning 'want' (e.g. LATIN, SPANISH ((si)quier...(si)quier) and RUSSIAN and perhaps HUNGARIAN); or it is identical with the conditional particle such as in ANCIENT GREEK, LATIN, and HUNGARIAN cited above.

3. The third contrast is the traditionally claimed one between "exclusive" and "inclusive" disjunction, depending on whether the co-occurrence of both alternatives raised is possible or not. Dik, however, claims (1968, 274ff) that this identification is mistaken and that disjunctive connectives in natural languages either belong to the "exclusive" type or else they exhibit ambiguity between the exclusive and inclusive sense (for an example of such ambiguity, see Langacker 1969, 49, 61), but that they are never unambiguously inclusive; and that the distinction between the two morphologically distinct types is based not on this criterion but on whether the choice is relevant to some argument or not.[20]

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[20] Languages with two morphologically distinct disjunctive connectives where, however, there was not enough evidence to judge the semantic distinction are the following:

BASQUE: zein...zein... and nein...nein... versus ela (how about edo versus ela?)
EWE: ...o...o versus aló...aló...
GOTHIC: jabbe...jabbe... versus aibbau
JAPANESE: mo...mo... versus ...ka...ka
KANNADA: sari . . . sari . . . versus -ō
KOREAN: ina...ina... versus ?
LATVIAN: ař...ař... versus vai...vai...
POLISH: albo and lub versus czy
TIGRINYA: koynu...koynu... and yəkun...yəkun... versus wəy etc.
AZERBAIJANI: ya versus vəya

Additional varieties of disjunctive connectives have also been observed sporadically. These are the following:

a/ In SYRIAN ARABIC and in LATVIAN, there is a disjunction specialized to connect synonyms (such as in the Bible or the Holy Script). In SYRIAN ARABIC ʔaw is used in other disjunctive contexts as well but apparently only this disjunction is used between synonyms. In LATVIAN, jeb is used only between synonyms. LATIN immo is used as ENGLISH or rather i.e. indicating that the second item is more likely, whereas with LATIN alias and ANCIENT GREEK ē kai the two items are marked as exactly synonymous.

b/ In SYRIAN ARABIC wəlla and in IRAQI ARABIC tara are used to connect a command with a threat (such as in Do such and such, or else...!)

Although it seems that of these contrasts the one between "choice that matters" versus "choice that does not matter" could perhaps be correlated with performative and proposition conjunction, respectively, a detailed exploration of this possibility will not be carried out here. Thus we conclude that whereas evidence could be found for performative conjoining both in statements and in questions and also for performative disjoining in questions, the discovery of the empirical consequences of performative disjoining in statements remains an open question.

Comparing now the two alternative transformational theories in question, that of Katz and Postal's and Baker's versus that of Ross' and Sadock's, we would conclude that the latter theory is to be preferred. Katz and Postal's Q fails to relate yes-no questions to any other akin construction other than wh questions and it also fails to make specific predictions as to what the syntactic structure of questions might be like as opposed to that of statements. Within the performative theory, it becomes possible to relate independent questions to dependent questions and to imperatives. This theory can also be used to explain some syntactic properties of sentences, and, in particular, of questions, as we

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(Footnote 20 continued)

c/ SYRIAN ARABIC ʔamma...wʔamma is distinguished from other disjunctions of the language by its emphatic nature. In general, correlative disjunctions in statements appear to be universally more emphatic than a single OR_2.

d/ GOTHIC ke is said to be more formal than ƀthwa.

e/ In SYRIAN ARABIC, FANTE, and GOTHIC, disjunctions differ by whether they connect words and phrases, or sentences. ʔaw in SYRIAN ARABIC is said to be infrequent in clause-connection. aná in FANTE connects words and phrases, anáse connects sentences. GUJARATI ke and ƀthwa are used between words and phrases, ƀthwalo is used with clauses. This criterion is also relevant in some languages for formal distinctions of 'and'-s, e.g. GUJARATI tƀtha connects only sentences, versus (ƀ)ne which connects smaller sequences as well as sentences. YORUBA tàbí is said to occur between nouns and pronouns and àbí between sentences (Rowlands 1959, 204). LATIN que and ANCIENT GREEK te tend to be used to connect phrases rather than sentences.

have seen: the distribution of first and second person pronouns, the presence of introductory subordinating connectives, the similarity of question pronouns to relative pronouns and some facts about the distribution and meaning of AND-s and OR-s.

Reviewing the two theory types in the light of the requirements that we set up above, we would conclude that, with respect to scope, the performative theory is better than the Q theory since it enables yes-no questions to be represented as related to more constructions. It seems, however, that both of them are equally weak from the point of view of the other two requirements. As far as domain is concerned, both theories view questions and statements as sentence types rather than deriving their differences from differences between discourse types. Third, the specific syntactic differences that we noted between statements and yes-no questions -- word order, question particles, verb inflection, the shape and deletability of OR-s, the deletability of the negative alternative -- seem to elude both approaches -- none of these specific features of yes-no questions are motivated within either of the two theories.

We will next explore the possibilities of an alternative theory. This theory differs from both Katz and Postal's in that it is about interrogative discourses rather than interrogative sentences; and that it tackles a set of specific syntactic distinctions observed to hold for statements and yes-no questions, those related to the shape and deletability of the disjunctive connective and the deletability of the negative alternative.

3.4.3 Interrogative discourse and the deep structure of OR.[21]

[21] The concept "interrogative discourse" has been a common one outside of theoretical linguistics: relationships that questions bear to adjacent and near-by sentences in the discourse have been observed and described mostly by philosophers, sociologists, scholars at law and education, and psychiatrists. Hiz 1963, for instance, is about the logical relationship between questions and answers. Stahl 1962 considers

Let us briefly recapitulate in just what ways we found disjunctive connectives are different in yes-no questions from what they are in statements. Let us first consider deletability. We can note two things. First, disjunctive connective deletion is apparently never obligatory in non-questions, as contrasted with EITHER-deletion in independent alternative questions which turned out to be obligatory in some languages. Second, the scope of OR deletion, once a language has such a rule, is always wider with respect to questions than with respect to non-questions: once OR is deletable in a language in alternative questions, it is deletable in all alternative questions, whereas OR deletion in non-questions is always limited to almost idiomatic phrases only.

Both of these observations show that disjunctive connective deletion rules have a wider scope of application in questions than in non-questions. Since deletable elements are, by definition, semantically redundant, this would indicate that the context of disjunctive questions is more of a "tautologous" context for disjunctive connectives than non-question contexts. Disjunctive connectives are "less needed", so to say, in alternative questions than in non-questions. Are there some additional facts which also show some distributional difference of disjunctive connectives in such contexts and which can be interpreted similarly? As was pointed out above, non-alternative yes-no questions of some languages do provide relevant data. Let us recall POLISH as an example. To jest pióro. means "This is a pen." and Czy to jest pióro? means 'Is this a pen?',

(Footnote 21 continued)
the rules defining proper sequences of questions. Maccoby and Maccoby 1954, Wigmore 1970, Hamilton 1929, and Sullivan 1954 are representatives of the vast extralinguistic literature on how to construct useful question-answer dialogues for sociological, courtroom, educational and psychiatric purposes respectively. For further discussion and references see Baron, Moravcsik, Ultan (eds.) Questions - a book of readings. Section 2. The structure of questions and answers and Section 3. The function of questions (in preparation) to appear in 1974).

where czy means 'or'. OR in such questions occurs without connecting anything, as opposed to its connective function in declarative sentences. The presence of this OR can be of course accounted for by deriving these questions from an underlying disjunction and then by having a rule delete the conjunct leaving the connective behind. Such a rule, however, is not the final answer since, first of all, the question arises as to why such a rule is possible and, second, it only explains the presence of OR but not its function as a "question particle": this OR differentiates, by itself, the resulting construction from a statement and marks it for being a question. This strange distribution of OR seems to correspond to facts about the distribution of disjunctive connectives in alternative questions discussed above: those show the redundancy of disjunctive connectives in questions, and this shows the redundancy of separate question markers once a disjunctive connective is present.

To what extent has this specific relationship between disjunctive connectives and question particles been expressed in theories of questions? Katz and Postal's account (see also Langacker 1969, 55, 60) of yes-no questions seems, to some degree, to approximate to the idea inasmuch as they represent the disjunctive connective itself as being the questioned constituent in such constructions. This account makes the redundancy of disjunctive connectives versus question particles, and vice versa, at least intuitively plausible, but it strikes one more like a formal expression of the gist of some facts, rather than an explanation inasmuch as one is still left wondering why disjunctive connectives and question particles should be related in this manner.

In search for an explanation that satisfies, let us first take up the question: why are disjunctive connectives often deletable in questions? One way in which the optionality of these connectives could be explained would be on semantic grounds: by semantically representing yes-no questions as including disjunction. This idea seems plausible if one

thinks of disjunctions as indicating awareness of a class of events and making the assertion that only one of its members is true; and if one thinks of yes-no questions as also indicating awareness of a class of events and of the fact that only one of its members is true. Yes-no questions differ from disjunctions only in that they also stand for a request for specification of which particular member is true.[22]

Let us now take up the second question: why is it that disjunctive connectives by themselves can function as question markers. Slightly simplifying the problem, we may restate it as follows: how is it that some questions do not get marked for questionhood and yet they are interpreted as such? One way of explaining this would be by an argument similar to the previous one: by claiming that the optional element -- the disjunctive connective, above, and the question marker, in this case -- is predictable from the underlying semantic representation of the whole construction. The construction that we suggested makes the disjunctive connective predictable is the yes-no question construction -- what would be one to make question-markers predictable?

Suppose we posit a discourse type called interrogative dialogue. A chunk of discourse would qualify as an instance of interrogative dialogue if it consisted of a pair of sentences which are in a class-member relationship with each other. The interpretation of the marker of this discourse type -- let us call it ID -- is something like this: "not all members of the class are true; specify which are true". The function of this ID is, then, to define questions and answers in relation to each other. The defining characteristic of a question would be that it is a class-utterance

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[22] This way of explaining why disjunctive connectives are dispensable in questions may also provide for the explanation of obligatory you-deletion in imperative constructions. If the notion "imperative" is defined somewhere in the grammar as necessarily involving a second person, then the redundancy of you and the resulting deletability is explained. This is suggested by McCawley 1970, 8, 39.

paired off with a member utterance, its answer. This framework would do away with the notion of question as a primitive in linguistic theory replacing it with the primary category "question-answer pair". This implies not only that answers by themselves have no status in linguistic theory but that questions don't, either, without their matching answers.

We have suggested that the optionality of disjunctive connectives and question markers in some yes-no questions could be explained by positing an interrogative discourse-type. In terms of the definition of this discourse type, questionhood and disjunctivity would be predictable features of the class utterance which is one of the components. In order to substantiate our suggestion, it must be shown to be useful for other explanatory purposes as well. Some of such additional advantages derivable from the proposed framework might be the following.

First, in this framework not only will some questions be characterized as such even if they are not marked superficially for questionhood, but also some superficially-marked questions will be excluded from the class of questions. Such are rhetorical questions, since they have no answers, or other pseudo-question, such as "Why don't you come over one Sunday afternoon?", taken in the sense of an invitation, since none of the set of the appropriate answers -- "Thanks." or "I will soon." -- are in a member-to-class relationship with the "question". The intuitively plausible claim that such questions are in fact ambiguous between a real-question sense and a rhetorical question sense and that it is up to the hearer to disambiguate them by the kind of answer he decides to give ("Because I have no time." could be answered to the above question if the hearer conceives of it as a real question) follows from this framework. That such pseudo-questions should not receive question-characterization on an abstract level is also desirable if we assume that abstract representations have more cross-linguistic generality than superficial ones -- since at least some of these extended uses of questions are language-specific.

Second, this framework allows for the characterization of at least some linguistically appropriate answers and for the exclusion of at least some linguistically unsatisfactory ones.

Third, it makes the respective order of questions and answers predictable in terms of a genus-before-species ordering rule, as Sanders pointed out (1967, 154).

Fourth, it would perhaps also bear on the question: why do wh question pronouns and indefinite pronouns (like who? and someone) show morphological similarity in a number of languages such as GEEZ (Bergsträsser 1928, 99), ANCIENT GREEK, SANSKRIT, GERMAN, HUNGARIAN, JAPANESE (cp. Bach 1970), or KANNADA (R. Lass, p.c.).[23] If disjunctive connectives are represented as class-markers, then this observation is parallel to the fact that disjunctive connectives may mark yes-no questions by themselves: in both cases a class-marker -- or or somebody, -- is also a question marker.[24]

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[23] Kretschmer (1938, 4ff) also cites FINNISH, LATIN, TURKISH, GEORGIAN, MALAY and TUPI. He thinks historically the interrogative meaning was prior to the indefinite one.

[24] Cp. Langacker 1969, 62-63 and McCawley 1969 (297) and 1970 on reasons for and possible ways of formally associating some and or. It is relevant here to note that in a number of languages a disjunction compounded with a question-pronoun yields a pronominal form of indefinite meaning. Examples:

BASQUE: edo 'or', zer 'what?' edo zer 'whatever thing'
noz 'when?' edo noz 'at whichever time'
(Gavot 1929, 202)

BURIAT: nege haa...ygii haa 'or' jamar 'what kind?'
jamar negen 'whatever kind' (negen 'one')
(Grammatika 1962, 323ff, 151f)

HAUSA: kō 'or' wā̀ 'who?' kōwā 'anyone' (Robinson 1930, 19)

HUNGARIAN: akár 'or' ki 'who?' akár ki whoever', 'anyone'

JAPANESE: ka 'or' dare 'who?' dare ka 'somebody', 'anybody'
mo 'or' dare mo 'everybody'

KANNADA: -oo 'or' yelli 'where?' yelloo 'somewhere'

RUSSIAN: libo 'or' kto 'who?' ktolibo 'anybody'

Fifth, certain diachronic processes are also rendered plausible within this framework. The two relevant processes are: a/ interrogative particles may historically arise from disjunctive connectives: this may be true for some of the languages mentioned above such as POLISH; b/ disjunctive connectives may arise from interrogative markers: this is the case for ili in Slavic languages, whose etymology is i 'and' plus li 'yes-no question marker; for JAPANESE ka (Haruo Aoki, p.c.) and, possibly, for FANTE anée.[25]

Finally, one more general advantage of the proposed framework is seen in that it presupposes the discourse to be the adequate domain of linguistic theory -- a proposal for which much independent evidence has been adduced by a number of linguists in recent years.

This account of yes-no questions directly predicts an important syntactic difference between yes-no questions and statements: the relative redundancy and the question-marking significance of disjunctive connectives in questions, as opposed to statements. But if this account is an adequate one, it follows that OR-s in statements will have to have a completely different source from the origin of OR-s in questions as specificed above,[26] unless we want to claim that all

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[25] Vondrák (1928, 451) notes that li, the question marker, originates from disjunctive questions, "was übrigens von den meisten Fragepartikeln gelten könnte". No information has been found o.t whether in SOMALI ma developed from a question marker into a disjunctive connective or vice versa; and how YORUBA bí, the question marker, and (t)àbí 'or' are related. The FINNISH question marker -ko is etymologically related to HUNGARIAN ha 'if', 'whether' (R. Hetzron, p.c.).

[26] This conclusion seems very reasonable also for the following reason. Since questions, as opposed to statements, do not have truth values, the logic of questions, as Katz 1966 argues, should be different from the logic of statements. We would expect, therefore, that basic logical operations such as disjunction or negation should have different characteristics in questions and in statements. This can be readily seen for negation. The semantic difference between He went. and He didn't go. is of a completely different nature from the difference between Did he go? and Didn't he go? (see the discussion on negative questions in 5.5). If we therefore are made, on grammatical grounds, to posit a different deep structure for disjoining statements and disjunction in questions, we do something which is consistent with logical predictions.

disjunctive statements somehow originate from yes-no questions. Two questions arise: First, are there reasons in addition to the observation that OR-s are relatively redundant and that they can have question-marking function, which would support the claim that disjunctive connectives are of a basically different nature in statements as compared with yes-no questions. Second, if there are, just what should be the deep structure representation of OR-s in statements?

One of the additional observations pointing at the differential character of disjunctive connectives in yes-no questions is their shape. As we have seen above, in many languages there are different words used for disjoining questions and statements.

In addition to these facts about the deletability and shape of disjunctive connectives, one more observation can be adduced -- one about paraphrase relations.

There are data to show that in some languages disjunction is preferably or even exclusively expressed in a construction which also does not contain a disjunctive connective. This favored alternative to disjunctive constructions is a conditional construction. Rand points out (1969, 37) that in MANDARIN an "if not X then Y" type construction is frequently used in lieu of disjunctive sentences although the language has disjunctive connectives as well. In THAI, the only way of expressing disjunction in declarative sentences is by a "not X then Y" construction. E.g. *mây chây chăn dèk rú mây dèk chăn* "not he then I" 'either he or I' (Voegelin and Voegelin 1965, 775, 38) (The construction that is used for disjunction has disjunctive clauses or a conditional clause although it also includes the disjunctive connective used in questions; cp. *rú mây rú mây dèk rú mây mii mây chây rú mây* "not then not child not then not dog not then not" 'either a dog or a cat or else a cow' ibid. 775). Kâte, a New Guinea language, is also like THAI in that it has a disjunctive connective in questions but not in

non-questions (cp. Lang 1970, 73, 80). Furthermore, Longacre points out (1968, 77) that many Philippine languages use an 'if' word to express disjunction, such as ABORLAN TAGBANWA, BATAK, ATA MANOBO, and WESTERN BUKIDNON MANOBO; but he gives no examples, and it is not clear whether this is the only way in these languages to express disjunction. There is one other Philippine language, ILONGOT, which is claimed not to have a disjunctive connective at all and a conditional sentence is the only standard way of expressing disjunction: e.g. qapiya ku nagiat 'good if bad'

qapiya nu qedsiya nagiat "good if not-is bad",

both meaning 'It is either good or bad.' (Michelle Rosaldo, p.c.). R. Lang (p.c.) informs me that in addition to ENGA in many other languages in New Guinea, e. g. MELPA, KARAM and ASMAT, there is no declarative 'or', but only an interrogative one. He suspects that if we discount some borrowed 'or'-s such as in KOIRARI, this may be a general characteristic of all Papuan (i.e. non-Austronesian) languages of New Guinea. He also tells me that at least in ENGA there is a conditional paraphrase for declarative 'either...or', but such paraphrases are only reluctantly accepted by ENGA speakers. An example is akáli támo-pi énda támo-pi dolápo-nya méndé p-i-á "man if-and woman if-and they=two-gen. one" 'Of the two, either a man or a woman did it.' All our data show that conditional paraphrases of disjunction are not used in questions.

Let us now turn to the other question: if declarative OR-s are really so different from question OR-s and assuming that we have found a satisfactory source for deriving question OR-s, what should the deep structure source of declarative OR-s be?

One answer to this question is that disjunction of statements is to be expressed in the deep structure by simply positing a disjunctive connective. There are two conceivable reasons why this most simple answer may not also be the best one: it, on theoretical grounds, some

other representation appears more satisfactory or if empirical evidence points at an alternative solution.

Sanders (1977, 138ff) points out that for the sake of axiomatic simplicity, it would be good to be able to eliminate from the deep structure the disjunctive element and substitute it by a construction which contains elements which have to be assumed anyway. He proposes that or can be made predictable in this manner by paraphrasing it in terms of conjunction and negation. The rule which he gives for predicting or and which he calls "possibly universal" is the following:

((NEG, (X, Y)), (Neg, ((Neg, X), (Neg, Y)))) $\xrightarrow{\text{opt.}}$

((X, (Neg, Y), OR, (Neg, X), Y))

In other words, X or Y means neither both X and Y, nor no X and no Y or, even simpler, neither both of them, neither neither of them. This deep structure then successfully eliminates OR from the deep structure by employing negation and coordination which have to be there anyway. There is, however, what seems to be a weak point of this analysis. The rule is an optional one which means that a disjunctive structure is equally well expressed in terms of negation and coordination. Although corresponding sentences may be grammatical in all languages, no data have been found to show that they are favored or that they would be a standard construction.

On the other hand, there is a non-disjunctive construction which is in standard use in many languages to express disjunction. This, as it has been shown, is a conditional construction. Some languages, as we have seen, use the conditional construction as a standard alternative to the disjunctive one and other languages use a conditional construction as the only means to express disjunction. In addition, it is worth noting that in many languages the disjunctive connective itself is identical in shape or is historically related to an 'if'-word. This is the case in ANCIENT GREEK *ēite...ēite...* derived from *ei* 'if' and *te*

'and'), and in HUNGARIAN (ha (is)...ha (is)... again derived from 'if' and 'also/and'). As further examples, let us refer to KALAMIAN TAGBANWA which is described by Longacre (1968, II, 177f) as having in...in... 'if...if...' as a disjunctive connective, and SHONA kana meaning both 'if' and 'or' (Sterick 1965, 479f, 496).

These facts would indicate that if we want to represent disjunctive constructions in the deep structure as not involving a disjunctive connective, but only elements whose presence is otherwise motivated, a conditional construction may be appropriate.

As we have seen above when we were discussing performative disjoining, there are at least two main semantic classes of disjunctive connectives: those that express a choice where the decision matters and those that express a choice where the decision is immaterial, such as Whether it rains or not, we go. versus Either it will rain or it won't. Are both of these classes to be derived from some underlying conditional construction -- and what exactly would be that structure? As far as the "focused-on" type is concerned, given both the meaning and the form of the conditional constructions that languages use to express this, we suggest that an IF X THEN NOT NOT-X type underlying structure would be appropriate. As far as the "non-focused" kind is concerned, given its semantics, as well as the observations that we made above -- that it is often derived from a second person verb 'want' or a third person verb from 'be' and/or from a conditional connective -- we suggest that these could be derived from a structure such as BOTH IF YOU WANT X AND IF YOU WANT NOT X or BOTH IF X IS AND IF NOT-X IS.

On the topic of deep structure representations of disjunctive connectives, we thus conclude that there are three types of disjunctive connectives that have different representations on a deep level: the "focused-on" kind: IF X (THEN) NOT NOT-X

the "non-focused-on" kind: (BOTH) IF YOU WANT X AND IF YOU WANT NOT-X or (BOTH) IF X IS AND IF NOT-X IS

the interrogative kind: [X NOT X]$_{ID}$.

What can be claimed for each of these representations is that they manage to eliminate the assumption of an underlying disjunctive connective by representing it in terms of otherwise-needed underlying elements such as IF, AND, NOT, YOU, WANT and BE, in a manner which is consistent with what we have observed about their semantics, syntax, and morphology.

If we compare the performative theory of questions with the discourse approach, it seems that the performative theory has several advantages. First, within this theory wh questions, indirect questions and imperatives get related to yes-no questions, whereas it is not clear how indirect questions and imperatives would be related to them in terms of the discourse theory. Second, by assuming that questions, as statements as well, are subordinated to a sentence which contains a first and a second person noun phrase, various facts about the distribution of pronouns, as well as some other syntactic properties of questions and statements can be explained, and these would remain unexplainable according to the other approach. On the other hand the performative theory is a sentence-level theory and thus says nothing about the extra-sentential constraints that hold for question-answer discourses. Also, at least one specific syntactic distinction between yes-no questions and statements gets directly predicted in the discourse approach, but not the performative theory, which is the distinctive shape of disjunctive connectives in some languages and the relative redundancy thereof.

4. The Bias

4.1 Semantic plausibility. Thus far, we have been discussing two aspects of the underlying structure of yes-no questions. One component of the posited underlying structure, X OR NOT-X, is one which yes-no questions share with disjunctive statements. The request-component, on the other hand, is one whose distribution is more restricted in that it is unique to questions. Such an underlying structure would seem to be sufficient for questions such as the following: Are you a carpenter or are you not, and Are you a carpenter? It is incomplete as an account, however, of questions such as You are a carpenter, aren't you?

Aren't you a carpenter?

Are you really a carpenter?

There is an additional meaning element in these sentences which is that although the speaker is aware of both alternatives, he would prefer to hear one answer more than the other. There has to be a third component, therefore, which is present in the deep structure of this subclass of yes-no questions to account for this preference of the speaker.

Let us compare the simplest paraphrases of a neutral question and a corresponding biased question. Are you a carpenter? means I ask you to tell me whether you are a carpenter or not. You are a carpenter, aren't you? means Are you a carpenter or are you not? I suggest you are. A semantically plausible way, therefore, of differentiating biased questions from neutral ones, is by assuming that their abstract structure contains, in addition to a disjunctive statement and the request, also a non-disjunctive statement where the proposition is identical with one of the clauses in the disjunctive statement. The semantic notion "speaker's preference" is thus interpreted as both stating and questioning an event.

There are various possibilities, however, as to the representation of this non-alternative statement. First (1), we could just suggest that

this statement must be incorporated in the deep structure somehow, without making any commitment as to the way of representation. Second (2), we could make a stronger claim by specifying the manner in which this statement is to be incorporated in the deep structure representation of yes-no questions. One possibility (2.a.) is that it is a constituent within the sentence structure of the biased question. The other possibility (2.b.) is that the statement appears in the underlying discourse context of the disjunctive question.

What kind of considerations would serve to tilt the balance in favor of one rather than the other possibility? Since (1) makes no claim about the syntactic form of the semantic information to be represented in the deep structure, but (2.a.) and (2.b.) specify that it is a sentence and that it is a declarative one, we can choose between (1) and (2) by seeing whether there is any possible use to be made in accounting for the syntactic structure. If there is, we would choose (2). The further choice between (2.a.) and (2.b.), on the other hand, does not rest directly on empirical evidence: (2.b.) is preferable if there is independent justification for the discourse as a domain of grammar.

By observational criteria, biased questions can be classified as tag questions, negative questions, questions with special mood, questions containing certain adverbs, and questions with special stress and/or intonation patterns. Of these, only tag questions and negative questions will be discussed in more detail.[1]

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[1] Some examples of biased questions where the bias is expressed by some adverb are the following:

ADVERBS TO MARK PREFERENCE FOR AGREEING ANSWER:

AGTA: de; e.g. mang-an k-anan de 'Have you eaten yet?' (Healey 1960, 92)

BULGARIAN: nali; e.g. nali e t'j 'Isn't it right?' (Beaulieux 1950, 349ff)

BURIAT: xajaa, altai ("with a shade of expectation that the answer will be positive"); e.g. doržo ošoo xajaa 'Dorže is probably gone?'; abamnai jenee altai 'Our father must have come?' (Poppe 1960, 125)

4.2 Tag questions.

4.2.1 Facts. In discussing tag questions, we will first list our explananda by giving a characterization of their most conspicuous properties as observed in our language sample. Subsequently, we will try

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(Footnote 1 continued)

JAPANESE: ne, e.g. takai desu ne' 'It is expensive, don't you think so?' (Jorden 1962, 1, 212f)

KANNADA: tanē, e.g. bartīya tanē 'You are coming, aren't you?' (Bright 1958, 48; cp. also Bright et al. 1960, 23, 30)

KHASI: nu used at the end of rhetorical questions asking consent from the person addressed (Rabel 1961, 64f)

TAMIL: -ē ("Frage mit angenommener Gewissheit: e.g. nīyē ceytāy 'Du tatest (es)?' (Beythan 1943, 74)

TIGRINYA: day-, a verbal prefix: "la réponse doivre être positive" (Leslau 1941, 152)

ADVERBS TO MARK PREFERENCE FOR DISAGREEING ANSWER:

BULGARIAN: nima; e.g. nima e vъzmožno takova nъщo 'Is it really true that such a thing is possible?' (Beaulieux 1950, 349ff)

BURIAT: aal, bii; e.g. ši moróo baráa alši 'Did you really catch your horse?'; teden jeree bii 'Did they come for sure?' (Poppe 1960, 125; "questions with a shade of disbelief")

FANTE: ampa; e.g. ana wɔkɔre ampa 'Did you really go?' (Balmer and Grant 1929, 67f)

GERMAN: wirklich; Ist sie wirklich krank? 'Is she really sick?'

SERBO-CROATIAN: zar implies "doubt, surprise, a scornful rejection on the part of the speaker. If the source sentence is negative, zar may imply belief that the opposite is true." e.g. zar je on orde 'Why, is he here?' (Also zar da, "denotes surprise or annoyance at some necessity, obligation or expectation") (Bidwell 1963, 258f)

TAMIL: -ō ("zweifelnde Frage"); avanō ceytān 'Er tat es? Wirklich?' (Beythan 1943, 74)

VIETNAMESE: ư; e.g. cô bận à "you busy question" 'Are you busy? (I am surprised.)' (Hòa 1957, 8)

For mood signaling answer preference, see FRENCH, where, if the main sentence with an embedded object clause is questioned and the expected answer is affirmative, the object clause is in the indicative; but if the expected answer is negative, it is in the subjunctive (Fraser and Squair 1913, 171).

to imagine ways of accounting for these properties and we will raise the question as to what syntactic use could be made of an underlying structure which contains a declarative sentence, where the proposition is one of the alternatives.

Semantically, as it was observed above, tag questions belong to the class of biased questions. An observation will serve to characterize the nature of this bias. In every tag question, the tag itself is really optional, i.e. semantically redundant, at least in some languages such as ENGLISH, GERMAN, and HUNGARIAN: for instance, both You are going, aren't you? and You are going, mean the same thing provided the latter is pronounced in an interrogative situation.[2]

Syntactically, tag questions always consist of a non-alternative declarative statement (hereafter referred to as "main sentence") and an interrogative part (hereafter referred to as "tag", with the term "tag question" reserved for referring to the whole construction).[3] Let us first discuss the main sentence. To see that the main sentence must indeed be declarative in ENGLISH, compare

You are going.
You are going, {aren't you? / right?}
Are you going?
*Are you going, {aren't you? / right?}

(Footnote 1 continued)

As for intonation, one remark can be made. Where as any neutral construction can be pronounced with an intonation pattern that turn them into a biased question, constructions that are made into biased ones by segmental devices such as tags or adverbs can not be altered into neutral ones by intonation.

For still another way, observed in ENGLISH, of conveying bias in yes-no questions, observe some-any alternation in the following sentences: Did he eat something? (neutral) Did he eat anything (at all)? (biased).

[2] Longacre (1969 II, 23) talks about neutral tag questions in SANGIR, but since no data are given, there is no way of judging his claims.

[3] Compare Ultan 1969, 49, who states that tag questions "most often" contain a non-alternative declaration.

The declarative nature of the main sentence is also shown by the fact that some sentence adverbials can occur in declarative sentences and in the main sentence of tag questions, but not in interrogative sentences, such as certainly (as it is pointed out in Katz and Postal 1964, 87). For the requirement that this main sentence be a non-alternative statement, compare ENGLISH You are going or you are not going.

*You are going or you are not going, are you?

The main sentence, therefore, appears to have two restrictions on it in order to qualify: that it be declarative and that it be not alternative. Let us now take a look at tags and see what are the properties that are necessary for questions to have in order for them to be possible tags.

Looking at tags of various languages from a paradigmatic point of view, one possible classification would be the following:

1. affirmative tags (e.g. He didn't fail, right?)
2. negative tags (e.g. He failed, didn't he?)
3. alternative tags (e.g. MANDARIN nǐ xiànzài húi jia shì bu shì 'You are going home, aren't you?' where shì bu shì is "is not is".)
4. disjunctional tags (e.g. GERMAN Er ist krank, oder? 'He is sick, isn't he?' where oder is "or")
5. pronominal tags (e.g. GERMAN Das war gut, was? 'This was good, wasn't it' where was is "what?")
6. interjectional tags (e.g. He is coming, huh?)

The tag is an affirmative predicate in 1., a negative predicate in 2., a disjunction of two predicates in 3., a disjunctive connective in 4., a pronoun in 5., and an interjection in 6. 5. and 6. could be labeled together as substitutive tags.[4]

What can be said in favor of this classification is that it is empirically satisfactory in that it appears to be exhaustive and the classes are mutually exclusive (every tag observed can be uniquely classified within it)

[4] Bolinger (1957, 21) calls what and eh reclamatory words since they can be used to make the speaker repeat what he said.

and that it is non-arbitrary at least in the sense that all the classes are syntactic ones.

The classification of tag questions given here concerns a smaller set of linguistic structures than Ultan's classification (1969, 50) and the criteria are also different. Ultan first distinguishes multiple choice tags (e.g. How about...?) and binary choice tags. Of these two, we are only concerned with the latter, because of the principal interest of the paper which is about questions answerable by yes and no. He further subdivides binary choice tags into 1. alternative tags consisting of 'or' and 2. "request for information"-type tags. Of these, 'or'-s are considered here tags only if the resulting question is a biased one. "Request for information" type tags are subdivided by Ultan into a/ negative constructions (n'est-ce pas), b/ positive constructions (ROTUMAN ne 'is'), c/ interjections, and d/ miscellaneous types (RUSSIAN pravda, TAGALOG ano, 'truth' and 'what', respectively). Our six surface types correspond to Ultan's categories in the following manner: affirmative to 2/b, negative to 2/a and some of Ultan's question particles (1969, 53-55), alternative to some of 2/d, disjunctive to some of 2/d, pronominal to some of 2/d, and interjectional to 2/c.

Looking at tags syntagmatically, i.e. considering their syntactic properties in relation to the syntactic properties of their context, rather than considering them just by themselves, there is again some emerging pattern. Some tags contain the repetition of some part of the main sentence, usually the predicate and perhaps also some other constituents. These tags thus vary with some properties of the main sentence such as verb type -- cp. aren't you vs. don't you in ENGLISH -- or person (cp. aren't you vs. isn't she in ENGLISH). The other class of tags does not show variation corresponding to properties of the main sentence. This complement class of the first one, however, can be characterized further in addition to this negative statement. Insofar as a tag does not

belong to the first class but it contains some kind of a predicate -- i.e. it is not disjunctional, pronominal, or interjectional -- the class of lexical items that it contains can be characterized as being fairly narrow: it is always an existential verb or a copula and/or words such as 'truth', 'true', 'right', 'so', 'yes', 'no'. Furthermore, the person and number, if any, is always singular third person.

An example for this type of tag question, henceforth called metatag question, as opposed to the first type henceforth called resumptive tag questions, is ENGLISH You are going, (is(n't) that) right? The fact that both metatags and resumptive tags can be characterized independent from each other, i.e. not just by lacking the properties of their complement class, is taken to be an indication of the validity of the proposed classification. Another piece of confirming evidence is that each of these two classes of tags behave homogeneously by criteria other than that of lexical composition as well. Three properties all further characterizing their relationship with their main sentence have been found to hold true for all resumptive tags. First, there are restrictions on the respective affirmation values in the main sentence and in the tag: they are ordinarily opposite.[5] Second, resumptive tags are never untruncated sentences: some deletion or substitution seems always obligatory (cp. ENGLISH *He read it, didn't he read it?, and HUNGARIAN *Olvastad, nem olvastad? "You-read-it, not you-read-it"). Third, the tag follows the main sentence.

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[5]This is not quite so in ENGLISH. You are going, are you? is grammatical in BRITISH ENGLISH as a standard tag question and it also occurs in AMERICAN ENGLISH although with meanings different from ordinary tag questions. However, even ENGLISH has a restriction on the structure of resumptive tag questions in terms of the respective affirmation values of the main sentence and the tag in that they must not both be negative (*You aren't going, aren't you?) It is interesting that as Brown and Hanlon observed (1970, 37), ENGLISH children do make mistakes in the use of resumptive tags in ENGLISH by using an affirmative tag after an affirmative main sentence, but never by using a negative tag after a negative sentence.

As far as metatags are concerned, all of them contrast with resumptive tags in terms of the first criterion, and at least some of them in terms of the second and third. Concerning the criterion of respective affirmation values, compare ENGLISH right, itself affirmative, FRENCH n'est-ce pas, itself negative, and MANDARIN shì bu shì "is not is", itself alternative, all of which can equally occur after affirmative or negative main sentences. Concerning the criterion of deletion, compare HUNGARIAN Jössz, igaz? 'You are coming, aren't you?' where the tag is a full sentence meaning 'Is it true?'. But ENGLISH right, for instance, shows that not all metatags are undeleted. As for sentence-final position, this is again a property which is true for all resumptive tags and not true for some but not all metatags. Non-sentence final position is always just another alternative to sentence-final position for metatags if it is possible at all. The metatag may be sentence-initial and sentence-medial in HUNGARIAN (ugye "so-question", e.g. elmész Péterhez, ugye; ugye elmész Péterhez; Péterhez ugye elmész all meaning 'You will go to Peter, right?') and in FRENCH (n'est-ce pas; cp. Ultan 1969, 50); and in FANTE, nyɛ "not-is", mense "I don't say" are described as sentence-initial tags and there is no indication that they may be sentence-final at all. The same is true for HEBREW halo' glossed as 'but obviously, isn't it true that...', 'isn't it so', 'don't you', 'n'est-ce pas' and apparently consisting etymologically of ha, a binary choice question particle and lo', a negator (cp. Rosén 1966, 15, 73, 81, 146, 231). Longacre (1969, II, 23) points out that in BONTOC, BALANGAO and KALAMIAN TAGBANWA the tag is either sentence final or it may follow any sentence constituent which is the focal point of the question as opposed to TAGABILI, DIBABAWON MANOBO, KALABAN and ATTA NEGRITO where the tag is always sentence-final; but it is not clear from his account whether the tags involved are metatags or of the resumptive kind.

Of the four criteria mentioned in connection with the dichotomy of resumptive tags and metatags -- lexical composition, affirmation value, deletion, and ordering -- the two latter ones define resumptive tags as one class (deletion and sentence-final position is obligatory for all of them) but do not define metatags as one class; some are like resumptive tags in these respects. Given that we have found much fewer examples of resumptive tags anyway, we conclude that these two properties are general properties of all tags, with occasional exceptions which just happen to be all in metatags in our sample. We are thus left with the other two properties -- lexical composition and respective affirmation values in the tag and in the main sentence -- as operational criteria for classifying tags: resumptive tags share lexical material with the main sentence and there are restrictions with respect to the affirmation values in the tag and in the main sentence; whereas metatags are independent from the main sentence both lexically and in affirmation value.

The following chart summarizes resumptive tag questions and metatag questions according to the distribution of affirmation values in the main sentence and in the tag, with illustrative examples for easy identification. ✓ means "occurs", Ø means "does not occur".

Tag type	RESUMPTIVE TAG QUESTIONS			METATAG QUESTIONS		
Main Sentence \ Tag	+	−	+/−	+	−	+/−
+	✓ You are going, are you?	✓ You are going, aren't you?	Ø *You are going, are you or aren't you?	✓ You are going, right?	✓ Sie gehen, nicht wahr?	✓ ni xiànzai huí jia, shì bu shì 'You are going home aren't you?' (Elliot 1965, 83)
−	✓ You aren't going, are you?	Ø *You aren't going, aren't you?	Ø *You aren't going, are you or aren't you?	✓ You aren't going, right?	✓ Sie gehen nicht, nicht wahr?	✓ maga nem betörö, igaz vagy nem igaz 'You are not a burglar, are you?'
+/−	Ø *You are going or you aren't going, are you?	Ø *You are going or you aren't going, aren't you?	Ø *You are going or you aren't going, are you or aren't you?	Ø *You are going or you aren't going, right?	Ø *Sie gehen oder sie gehen nicht, nicht wahr?	Ø *You are a burglar or you are not a burglar, is this true or isn't it?

Gaps in the last row are results of the requirement that the main sentence be non-alternative. The other occurrence gaps are due to the fact that there are coocurrence restrictions between main sentence and tag values in resumptive tag questions.

Let us next turn to the cross-linguistic distribution of resumptive tag questions and metatags questions. In general, the resumptive type has been found documented for a handful of languages only and all of these

languages also appear to have the meta-type. Brown and Hanlon note (1970, 15) that right -- a metatag in our terminology -- and interjectional tags such as huh are acquired earlier than "resumptive" tags.

Beside ENGLISH, KIWAI and TAMIL are the only languages found which appear to have tags that qualify for being resumptive by both the criterion of lexical composition and that of opposite affirmation value.[6] In TAMIL, only one single sentence was found to indicate their existence: nii py sollamaattee, solveeyaa "you lie tell-indicative-not-2sg tell-future-2sg-question" (Srinivasan 1968, 32).[7] Evidence for KIWAI is provided by the following sentences (S.A. Wurm, p.c.):

roro aimeriauriama paikiaurigo "you-singular-ergative you-singular-saw-them not-you-singular-saw-them" 'You (singular) did see them, didn't you?'

roro paikiauriamago riaurigo "you-singular-ergative not-you-singular-saw-them you-singular-saw-them" 'You didn't see them, did you?'

In addition to ENGLISH, KIWAI and TAMIL, there was one language found, FINNISH, which has resumptive tags, by the criterion of lexical composition, and two languages, THAI and YORUBA, with tags that appear to be resumptive by the criterion of opposite affirmation value.

For FINNISH, compare sina menet, et kö (nii) 'You are going, aren't you?' and han menee, ei kö niin 'He is going, isn't he?' Et and ei are two forms of the negative verb corresponding to the respective second and third person in the main sentence predicates. (Data from Russell Ultan, p.c.)

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[6] Wurm informs me that both colloquial TURKISH and colloquial JAPANESE have resumptive tags. Example sentences, however, have not been available.

[7] After an affirmative statement, illeyaa, "not-question", is used.

The suspected resumptive tag in THAI is mǎj. It is a single negator and thus the criterion of lexical composition does not apply, but by the criterion of respective affirmative values it turns out to be a resumptive tag, since it must not occur after a negative sentence (cp. Haas 1948, 352; Campbell 1962, 81; Voegelin 1965, 33; Chaiyaratana 1961, 225f).

The same argument applies to YORUBA. Àbí means 'or' and it is a tag (Delano 1963, 8). The criterion of lexical composition does not apply again, but it has the same restriction on it as THAI mǎj: it must not occur after a negative sentence (Ayọ Bamgbọṣe, p.c.). In other words, we explain this restriction on the occurrence of mǎj and àbí by claiming that what is deleted in these tags is, for mǎj, the verb of the main sentence and, for àbí, the negated verb of the main sentence -- and by assuming that such resumptive tags must differ from the main sentence in affirmation value. The assumption, therefore, that there is such a tag type as resumptive turns out to be explanatory with respect to some facts of THAI and YORUBA.

If àbí is really a resumptive tag, then the generalization that the existence of a resumptive tag implies the existence of a metatag in all languages would have an exception, since àbí is the only tag YORUBA has (Ayọ Bamgbọṣe, p.c.)[8]

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[8] Some examples of metatag questions are given below.

METATAG QUESTIONS WITH AFFIRMATIVE TAGS:

ENGLISH: (is(n't) that) right; after affirmative statement: He is your brother, right? after negative statement: He is not your brother, right?

F. Householder pointed out that in ENGLISH there is a stylistic difference between the use of resumptive tags and the use of metatags. Metatags are argumentative and occur particularly in opening premises of an attempt to persuade someone of something. He also provided some good examples: " The moon is made of green chese, right? Why not buy a share in my moon transportation company, then?"

The following generalizations can be made concerning the cross-linguistic distribution of the two types of tag questions. All languages investigated for which tag constructions were described at all have the

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(Footnote 8 continued)

" Five times five is twenty-five, correct? Then how come you paid twenty-seven fifty?" Bolinger (1957, 18) does not consider right to be a tag of the same order as didn't he etc., because he says that right is "intonationally separate and has primary stress."

GALA: miti "?"; after affirmative statement: Dufera, miti 'He has come, hasn't he?'; after negative statement: hinDufera miti 'He hasn't come, has he?' (Mulugetta Effetta, p.c.). It is possible, however, that miti is not a predicate and thus not an affirmative tag.

GERMAN: ja "yes"; after affirmative statement: Du wirst schlafen, ja? 'You will sleep, won't you?'; after negative statement: Du wirst nicht schlafen, ja? 'You won't sleep, will you?'

HAUSA: nē "is"; after affirmative statement: mu, munà dà shi nè "as-for-us, we have it do-we?" (Kraft 1963, I, 168); after negative statement: (no example found)

HUNGARIAN: ugye "so-question-particle", igen "yes"; after affirmative statement: beteg, {igen / ugye} 'He is sick, isn't he?'; after negative statement: nem beteg, {igen / ugye} 'He isn't sick, is he?'

JAMAICAN CREOLE: iing, yaa "yes"; after affirmative statement: Jien suo gud, iing 'Jane sews beautifully, doesn't she?'; after negative statement: uno no go de, yaa 'You won't go there, will you?' (Bailey 1966, 55, 91; Bailey, however, classifies the last example as one for a tag imperative)

MALAY: ja "yes"; after affirmative statement: saja tunggu, ja 'Ich warte, ja?' (Kähler 1965, 61); after negative statement: (no example found)

ROTUMAN: ne "is"; after affirmative statement: fā ta pot par, ne 'The man is very clever, isn't he?' (Churchward 1940, 61); after negative statement: (no example found)

RUSSIAN: pravda "truth"; after affirmative statement: ti yevó slušil, pravda 'You heard him, didn't you?' (Ultan 1969, 50); after negative statement: ti yevó n'e slušil, pravda 'You didn't hear him, did you?'

meta type. The few languages that have been found to have the resumptive type also have the metatype, except possibly YORUBA, as it was pointed out above. Within both types, negative tags prevail over

(Footnote 8 continued)

SOMALI: sow maaha "perhaps not-is"; after affirmative statement, see Bell 1953, 56; after negative statement: (no example found)

SPANISH: verdad "truth"

SWAHILI: ndiyo "yes"; after affirmative statement: mume stara, ndiyo 'A husband is a protector, is this the case?' (dubious, sarcastic; Closs 1967, 113); after negative statement: (no example found)

METATAG QUESTIONS WITH NEGATIVE TAGS:

Negative statements with tags, as maybe negative statements in general, are less frequent in use than their affirmative counterparts. As a result of this, for some languages, no examples were found for a negative statement with a tag, as the gaps in the listing above show. Whereas these gaps did not hinder identification of affirmative tags as belonging to the metatype -- the crucial point being that they cooccur with affirmative statements -- lack of examples for a negative statement cooccurring with a negative tag makes the criterion of independent affirmation value inapplicable to such tags. If, in addition, such tags do not even contain any lexical material other than just a single negator, classification becomes even more tenuous. Languages which have single-negator-tags and there is no evidence stated or exemplified whether they can cooccur with negative statements or not are starred in the listing below.

AMHARIC: a(y)dällämm "is it not"; after affirmative statement: hedwal, adällämm 'He went, is it not?'; after negative statement: alhedämm, adällämm 'He didn't go, is it not?' (Leslau 1962, 147; cp. also Dawkins 1960, 52)

BENGALI: na "not" (also "or"); after affirmative statement: kal asbo na 'I shall come tomorrow, shall I not?' (Hudson 1965, 34); after negative statement: no example found, but Charles A. Ferguson (p.c.) believes it occurs.

ENGLISH: no, isn't that so; after affirmative statement: He is still a friend of yours, no? (idiolectic); after negative statement: He is not a friend of yours any more, isn't that so?

FANTE: nyɛ "not is", mense "I don't say"; before affirmative statement: mense ɔbayɛ "do-I-not-say he will do it" 'He will do it, won't he?'; before negative statement: nyɛ nkɔkɔ "isn't it you not go" 'Will you not go?' (the gloss is problematic here! Is this a tag question or a negative question?) (Balmer-Grant 1929, 67, 70)

affirmative and alternative ones. In our sample, as the comparison of the two lists shows, every language except for one (ROTUMAN; i.e. 8 out of 9) that have affirmative metatags also have negative metatags;

(Footnote 8 continued)

FINNISH: eikö niin "not-is-question so"; after affirmative statement: sina menet, eikö niin 'You are going, right?'; after negative statement: sina et menet, eikö niin 'You are not going, right?' (Russell Ultan, p.c.)

FRENCH: n'est-ce pas "not-is not"; after affirmative statement: Vous avez lu le livre, n'est-ce pas? 'You have read the book, right?'; after negative statement: Vous n'avez pas lu le livre, n'est-ce pas? 'You haven't read the book, right?'

*FULANI: naa "not"; after affirmative statement: na nde Iisa naa 'It is Jesus, isn't it?' (Stennes 1961, 55, but Klingenheben 1963, 246 glosses this type of question as a neutral one, e.g. ɔa wari na 'Bist du gekommen?'); after negative statement: (no example found)

GERMAN: nicht (wahr) "not (true)"; after affirmative statement: Du hast geschlafen, nicht wahr? 'You slept, didn't you?'; after negative statement: Du hast nicht geschlafen, nicht wahr? 'You didn't sleep, did you?'

GREBO: hẽsea "or-lie-question" (conjectured etymology!); after affirmative statement: ɔ duda bla hẽsea 'He pounded rice, didn't he?'; after negative statement: ɔ yida bla du hẽsea 'He didn't pound rice, did he?' (Innes 1966, 108)

GUJARATI: ne "not"; after affirmative statement: e awyo chene 'He has come, hasn't he?' (Cardona 1964, 238); after negative statement: (no example found)

HAUSA: ba "not"; after affirmative statement: ka ze ba "you-have come not?"; after negative statement: har yànɔu bà ku "until now not you-have left not?" (Kraft 1963, I, 168)

HUNGARIAN: nem (igaz) "not (true)"; after affirmative statement: ettél, nem (igaz) 'You have eaten, haven't you?'; after negative statement: nem ettél, nem 'You have not eaten, have you?'

ILONGOT: (qed)be:t "(not) question"; after affirmative statement: pilipinu siya, (qed)be:t "Philippine is, (not) question" 'She is Philippine, isn't she?'; after negative statement: qawana quberi ma qansiN, (qed)be:t "not pretty the dress (not) question" 'The dress isn't pretty, is it?' (Michelle Rosaldo, p.c.)

and for ROTUMAN there is no evidence to exclude the possibility. This implicational relationship also appears to hold for resumptive tags: the only languages that have been found to have both affirmative

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(Footnote 8 continued)

*ITALIAN: no "no"; after affirmative statement: fa bello oggi, no 'It is a beautiful day, isn't it?' (Rabel 1961, 64f); after negative statement: (no example found)

JAMAICAN CREOLE: no "not"; after affirmative statement: im gaan aredi, no 'She has gone already, hasn't she?'; after negative statement: Jan no waan go, no 'John doesn't want to go, does he?' (Bailey, 1966, 55)

*KANNADA: alla "not"; after affirmative statement: koṇegū bandyallā 'You have come at last, haven't you?' (Bright 1958, 48; he says it is a rhetorical question; cp. also Spencer 1914, 154); after negative statement: (no example found)

*KHASI: ʔeen "no"; after affirmative statement: wa phii la da san katnikatni, ʔeen "O, you have grown up so much, haven't you?' (Rabel 1961, 64f); after negative statement: (no example found)

*LATVIAN: vai ne "or not"; after affirmative statement: māte ir istatā, vai ne 'Mother is in the room, isn't she?' (Lazdina 1966, 35); after negative statement: (no example found)

*MALAY: bukan "not (is)" (?); after affirmative statement: tuan saudaagar, bukan "you salesman, no" 'You are a salesman, aren't you?' (Kähler 1965, 61); after negative statement: (no example found)

PANJABI: na "not"; after affirmative statement: ó grà si na 'He went, didn't he?'; after negative statement: ó nəi si grà na 'He didn't go, did he?' (Gill and Gleason 1963, 266ff)

SPANISH: no es verdad "not is true"

*SWAHILI: siyo "no"; after affirmative statement: mume stara, siyo 'A husband is a protector, isn't this the case?' (Closs 1967, 113); after negative statement: (no examples found)

TAGALOG: hindi ba "not question"; after affirmative statement: siya ang pilipino, hindi ba 'She is a Filipino, isn't she?' (Bowen 1965, 30); after negative statement: hindi maganda ang damit, hindi ba 'The dress isn't pretty, is it?' (Bowen 1965, 25)

and negative resumptive tags are ENGLISH and KIWAI; FINNISH, SWISS GERMAN and THAI have negative ones only. The only TAMIL example of a resumptive tag is affirmative, however, All in all, the availability of resumptive tags in any language generally implies the existence of metatags; and the availability of affirmative tags generally implies that of negative tags.

Of our six "paradigmatic" types of tags, three are amenable to classification into the types resumptive and meta: these are the ones which contain some predicate-type constituent and thus can be attributed affirmation value to. These are the affirmative, the negative and the alternative type. Let us now see whether the resumptive-meta dichotomy could be made meaningful for the other three types: disjunctional, pronominal and interjectional. First we will list our examples for each.

Disjunctional tags, i.e. ones consisting of a single disjunctive connective 'or' have been observed in BENGALI, GERMAN, THAI and YORUBA:

BENGALI: na in simple (i.e. not alternative) question: kal aśbo, na 'I shall come tomorrow, right?' (Hudson 1965, 34); na in

(Footnote 8 continued)

METATAG QUESTIONS WITH ALTERNATIVE TAGS

CHINESE: shì bu shì "is not is", dùi bu dùi "correct not correct", xíng bu xíng "possible not possible", hǎo bu hǎo "good not good"; after affirmative statements: nǐ huì kāi chē, shì bu shì 'You can drive a car, can't you?' (Vicky Shu, p.c.); after negative statement: tā hái méi huàn yifu, dùi bu dùi "she still not change clothes, correct not correct" 'She still hasn't changed clothes, isn't it right?' (Elliot, 1965, 97f)

HUNGARIAN: igaz vagy nem igaz "true or not true"; after affirmative statement: ettél, igaz vagy nem igaz 'You have eaten, right?'; after negative statement: nem ettél, igaz vagy nem igaz 'You haven't eaten, right?'

VIETNAMESE: (có)phải không "(is)-correct is-not" (Hòa 1957, 66f)

disjunction: apni ča na kɔphi čan 'Do you want tea or coffee?' (Dabbs 1965, sub na); (na, however, is also a negator; cp. ami jani na 'I don't know' (Dabbs 1965, sub na)

GERMAN (also SWISS GERMAN): oder in simple question: Die sind doch wirklich ungewöhnlich, oder? (Willy Brein: Der Mann meiner Frau, Rororo Taschenbuch, 1968, p. 103. Mrs. Edith Moravcsik called this sentence to my attention.); oder in disjunction: Das ist Butter oder Margarin?

THAI: rɨ́ in simple question: k'un pay rɨ́ k'ráp "you go or (polite-man-speaking)" 'You are going?'; rɨ́ in disjunction: tə̄ cà pāy rɨ́ máy pāy "you will go or not go" 'Will you go or won't you?' (Voegelin 1965, 33ff; cp. also Haas 1948, 352; Campbell 1962, 81; Chaiyaratana 1961, 109-114).

YORUBA: See p. 92 above. [9]

Pronominal tags have been observed in the following languages:

ENGA: sentence plus páde aipa "or what" (Lang 1970, 186)

ENGLISH: Good show, what?

GERMAN: Das wäre schön, was? "it would-be nice, what" 'It would be nice, wouldn't it?'

HUNGARIAN: Jó lenne, mi? "good it-would-be, what" 'It would be nice, wouldn't it?'

TAGALOG: hindi mayaman si Joe, ano "not rich the Joe what" 'John isn't rich, is he?' (Bowel 1965, 27)[10]

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[9] AMHARIC wäy and KONSO hèlá, both disjunctives, are also said to occur as tags.

[10] AZERBAIJANI has a question type where the interrogative marker is, at least formally, identical with a relative wh word: ki/kɨ 'who, which, that' and similar to the interrogative kim 'who?'. This particle is said to be added to some sentence consituent in order to imply that the answer is known. (Householder and Lotfi 1965, 88).

Interjectional tags have been observed in ENGLISH and in HUNGARIAN (Jó, hm? 'It is good, huh?). Since these tags have no affirmation value, they appear to fall outside the domain of our classification. One might, of course, decide that these 'or'-s (and 'what-s) are simply adverbs, such as really and others that turn neutral questions into biased one; but in this case the relationship of particles with alternative structure would be obscured. On the other hand, it also appears that these questions, even if they lack any expression of affirmation value, can still be classified into our two types on a semantic basis. As an example, let us take SWISS GERMAN. Oder may follow both affirmative and negative statements; cp. Er išt en Amerikaner, oder? and Er išt nöt en Amerikaner, oder? ('He is an American, isn't he?' and 'He is not an American, is he?', respectively). It is also the case that the first question is synonymous with the following more complete paraphrase: Er išt en Amerikaner, oder nöt?, but that oder nöt? is ungrammatical if attached to a negative statement: *Er išt nöt en Amerikaner, oder nöt?; the fuller paraphrase for the tag question with the negative statement in it would be Er išt nöt en Amerikaner, oder išt er? (Mrs. Rita Moravcsik, p.c.). This suggests that SWISS GERMAN oder is in fact a tag and that it belongs to the resumptive type. Since BENGALI and THAI informants have not been available, these constructions remain unclassified -- but not in principle unclassifiable .

The same criterion of paraphrasability could be applied to classify tag questions involving 'what' and tag questions involving interjections.

Having thus listed syntactic and lexical properties of tags both taken by themselves and also as compared with their main sentences, we will mention two more facts before turning to the question of explanation. Both of these concern comparing tags with other syntactic constructions. First, affirmative and negative tags -- whether resumptive or meta --

can also be characterized as, in a declarative form, all being possible answers to the question. This holds for ENGLISH right (compare You have known this all along, right? -- Right.), FRENCH non, HUNGARIAN igaz vagy nem igaz "true or not true", and YIDDISH neyn, -- in other words, both for affirmative and for negative tags (whether resumptive or meta), for alternative tags and also for interjectional ones (not for disjunctional and pronominal ones, however). Note also ENGLISH and HUNGARIAN huh and unhuuh (e.g. You like this, huh? 'Unhuuh.)[11] Second, yes-no questions are not the only constructions that have tags: imperatives is another such construction, and, in fact, the only other one.

Our observations about tag questions can be summarized as follows:

1. semantics: biased questions; tag redundant
2. syntactic structure: sentences consisting of main sentence and tag sentence
   - A. main sentence: non-alternative declarative sentence
   - B. tag sentence: structure: a yes-no question
     - kinds: paradigmatically: affirmative
       - negative
       - alternative
       - disjunctional
       - pronominal
       - interjectional
     - syntagmatically: resumptive (contains some lexical material from main sentence, usually opposite affirmation value but at least never negative after a negative statement and never alternative; always truncated and always sentence-final)

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[11] See also VIETNAMESE, where phải is 'yes' and phải không is a tag; and THAI, Chaiyaratana 1961, 115. The isomorphism is not complete, however, in some languages. Not all answer words can be used as tags, in ENGLISH for instance: right can, but yes only idiolectically. On the other hand, not all tags can be used as answer words: in GERMAN nicht is a tag, but the corresponding answer word is nein.

meta (lexically and with respect to affirmation-value independent from main sentence; often truncated and often sentence-final)

distribution of different types within languages: existence of affirmative tags implies existence of negative tags

existence of resumptive tags generally implies existence of metatags

What is required of an account of tag questions is that it explains, ideally, all of these facts, and that the formalism involved is independently motivated. We will next survey various proposed solutions and then consider a new one.

4.2.2 Previous accounts. As Huddleston points our (1969), accounts of tag questions fall into two classes: those that derive tagged questions from one underlying sentence and those that derive them from two. Since tag questions superficially consist of a full and truncated sentence, a one-sentence base will have to be complemented by a copying rule and a two-sentence base by a deletion rule. Two specific suggestions fall into the "copying approach": that of Klima's (1964) and one raised about accepted in Stockwell 1968. Klima has an optional rule (pp. 263ff) which derives tag question from the underlying structure of neutral yes-no questions by having a transformation add, in effect, the tag. The Stockwell version (p. 648) also involves a copying rule with the difference that tag-questions-to-be are so marked in the underlying structure.

The other solution that the Stockwell grammar suggests falls within the other class where the base consists of two sentences and involves deletion. Tag questions are represented as consisting of a statement; e.g. John left, didn't he? comes from John left; did John leave or didn't John leave?. The fact that the main sentence and the tag have opposite affirmation values is then accounted for by the operation of a deletion

rule which deletes that part of the alternative question which agrees in affirmation value with the statement (e.g. did John leave above).

All three of these accounts have serious deficiencies even if considered as theories of tag questions only and in ENGLISH only. Klima's account is inadequate in that it does not assign an underl, ng structure to tag questions which is different from the underlying structure of neutral questions (as pointed out in Stockwell 1968, 646). The Stockwell "copying" account, on the other hand, assigns a deep structure to tag questions which is completely different from that of neutral yes-no questions; in particular, whereas neutral questions have an alternative statement in their base, tag questions have a non-alternative statement only. Besides, neither of these two accounts can derive embedded questions with tags (as pointed out by Stockwell 1968, II, 649 and Huddleston 1970, 216). These are points of criticism which apply even if these accounts are to explain resumptive tags in ENGLISH only. Copying rules of this sort become completely useless, of course, if we also consider metatags, since these contain material which is not in the main sentence; unless it is assumed that the performative includes an IT IS TRUE-type component and it is this frame that gets copied into metatags. The declarative performative would then be I SAY TO YOU THAT IT IS TRUE THAT... and the question performative would be I ORDER YOU TO TELL ME EITHER THAT IT IS TRUE THAT X OR THAT IT IS NOT TRUE THAT X. Independent reasons for such a claim, however, are yet to be found. Disjunctive, pronominal and interjectional tags are completely beyond the scope of a copying rule. Altogether, the copying approach is rejected in that it provides for a minute class of tags only even in its more advanced Stockwell-version, it does this by assuming a unique deep structure -- a reflection, in effect, of the statement-plus-question surface structure -- and a very specific rule, thereby not relating the tag questions that it generates to any construction

other than what in fact they superficially consist of.

The "deletion proposal" in Stockwell 1968 (II, 647ff) has the advantage that it assumes X OR NOT-X as part of the deep structure of tag questions thereby relating them to neutral yes-no questions. It also has the adventage that it is by a non-disjunctive statement that neutral and tag questions are made to differ from each other which seems semantically plausible as it was pointed out above. Also, it has the virtue of attempting to explain opposite affirmation value in terms of an independently motivated rule type: identity deletion. On the other hand, it has the drawback of positing a deletion rule identity conditions for which are hard to specify (as pointed out in Stockwell loc. cit.) and which is obligatory. Furthermore, it again cannot be used to derive non-resumptive tags, unless the above-mentioned IT IS TRUE frame is posited for every sentence, in which case negative metatags could be generated (the non-alternative statement would be framed by IT IS TRUE and the alternative would be perhaps IS IT TRUE OR IS IT NOT TRUE where IS IT TRUE would undergo identity deletion with IS IT NOT TRUE remaining, yielding n'est-ce pas etc.) but not affirmative or alternative metatags. Disjunctional, pronominal and interjectional tags are again beyond the reach of this approach. An additional observation to destroy the credit of the two-sentence approach is the following. Apparently, there is no possible conjunction that may stand between the main sentence and the tag in a tag question.[12]

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[12] Sentences such as ENGLISH You haven't seen him, or have you? which do have an or before the "tag" are thus differentiated from tag questions. We may call these afterthought question. Not only are they semantically distinct from tag questions, but also intonationally in that a pause occurs before the "tag". They also differ from tag questions in that deletion in the "tag" is not obligatory; cp. You haven't seen him -- or have you seen him? It should also be noted that only affirmative and negative resumptive tags, but not metatags, alternative, disjunctional, pronominal and interjectional tags have "afterthought" counterparts. The only example of an alleged tag question where there was a connective -- 'or' -- between the main sentence and the tag was found in LATVIAN: māte ir istabā, vai ne 'Mother is in the room, isn't she?' (Lazdina 1966, 35), but, given the general unreliability of glosses given in grammars, it may in fact be an afterthought question.

Whether the relationship of the two sentences is to be represented as paratactic or hypotactic, the obligatory asyndeton observed in all languages of the sample and thus possibly being a universal phenomenon would strike one as unique considering other paratactic and hypotactic sentence connections.[13] For tagged imperatives, too, accounts of two kinds have been proposed: ones starting with a two-sentence base (compare Arbini 1969) and ones starting with a one-sentence base (cp. Stockwell 1968, 688-90). Besides deficiencies of both types taken by themselves (for a critical account, see Stockwell loc. cit.), it is important to note that none of them are also capable of deriving tag questions. No theory has been proposed, in other words, which would account both for tagged questions and tagged imperatives.

Given such a state of affairs, it is understandable that the three latest summaries of tag-accounts -- Huddleston's of 1969, and the ones in Stockwell 1968, one on imperative tags (688-90) and one on question tags (645-49) -- reject all theories that have been suggested, including their own speculations.

4.2.3 One more alternative account. Next we will outline one additional possibility which has not been proposed before. This account is also deficient in many respects and it is also sketchy; yet, it appears more general in scope than those mentioned above in that it relates tag questions to other syntactic constructions to which they in fact bear observable resemblance. The gist of the proposal is that in tag questions the main sentence is to be represented as a yes-no question and the tag as the questioned form of an answer to the main sentence. That is to say, the main sentence in It is spring, isn't it? comes from an underlying question paraphrasable as Is it spring or isn't it; I suggest it is. and the tag from questioning one of the possible answers It isn't.

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[13] This is noted for imperative tags in Stockwell 1968, II, 690.

Indication that this account may be right is constituted by some of the observations we made above, as well as some other facts.

1. Some affirmative, negative, alternative and interjectional tags are identical with answers to yes-no questions, except for the fact that they are in an interrogative form.[14]

2. The only other construction that occurs with tags attached to it, imperatives, is also the only other construction (apart from greetings) that more or less requires answers. According to this account, both tagged imperatives and tag questions have the same structure: they consist of an answer-eliciting sentence -- an imperative and a question, respectively -- and the questioned form of a possible answer to this sentence, which is equally semantically redundant in both constructions: compare Open the window (will you?)! This glass is yours (isn't it?)?

3. The connection between the main sentence and the tag is asyndetic. In this respect this relationship is identical with the asyndetic relationship between questions and answers.[15]

4. To interpret tags as answers would also make it possible to conceive of John as a tag in the following wh question: Who came, John?, since John is a possible answer to the question Who came? Thus the distributional gap that wh questions, as opposed to yes-no question, do not have tags would be closed.

5. The prevailing sentence-final position of tags would be accounted for by claiming tags to be answers, since answers follow their questions.

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[14] This also holds for some adverbs which are used to suggest one or the other answer, e.g. really and indeed in ENGLISH and igazán 'really' in HUNGARIAN.

[15] Note also other comparable asyndetic relationships such as between affirmation word and answer sentence (Yes, I did.) and extraposed nounphrase and sentence (John, he is my friend.)

On the other hand, it is not clear how disjunctional and pronominal tags could be accomodated in this theory. Besides, it does not explain why the main sentence, a question in this account, must be superficially a non-alternative declarative sentence, i.e. why *Did you see him, didn't you?, for instance, is ungrammatical in all languages. It also does not explain why in resumptive tag questions we often find opposite affirmation values, as it does not explain obligatory truncation, either. The implicational relationship of different types that we observed within languages also remains unaccounted for.

Besides these empirical deficiencies, it is not clear how the idea that tags are questioned answers is to be represented. The tag part would presumably be represented as a regular yes-no question, i.e. with a request and an alternative underlying, and the same rules that derive alternative questions, affirmative questions and negative questions in general would also derive those that serve as tags. But how about the main sentence? Are questions that have the superficial structure of a declarative sentence underlain by an alternative in addition to a non-alternative statement? Since no intrasentential syntactic use could be made of an underlying alternative, the only reason to assume this would be that it functions as a question i.e. as a class utterance and, as the possibility of answering it either by an affirmative or a negative statement shows, it must, one might think, in some way incorporate both possibilities on some level of representation. However, this argument -- essentially, that an underlying alternative is necessary in order to account for the set of answers that can be given to such a question -- turns out to be invalid in view of the fact that imperatives, too, can be answered by both an affirmative and a negative statement, although there is no reason whatever why one should posit for them an underlying structure which incorporates both possible answers. Thus, the question as to how to represent the main sentence in tag questions, and, along with them,

any other "statement-question", is left open.

4.3 Negative questions. Wherever information was available, it was found that negative questions all share one semantic characteristic; that the speaker thinks the state of affairs should be one corresponding to the affirmative alternative; i.e. the opposite of the possibility raised in the question.[16] Thus, Aren't you going? implies I think you should be going. Some examples are given in the footnote.[17]

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[16] This was found stated for NUBIAN in Armbruster 1960, 406, for YORUBA in Ward 1956, 117ff and Rowlands 1969, 35ff and for Slavic languages in Vondrák 1928, 451.

[17] ARABIC (IRAQI): muu 'not' is used in exclamatory and rhetorical questions that suggest affirmative answer, e.g. muu l-ġada θallaj "not lunch got-cold" 'Lunch has god cold!' (Erwin 1963, 330). For such negative exclamatory-rhetorical questions compare also ENGLISH Didn't I tell you not to go! or HUNGARIAN nem megmondtam! "not told I" 'Didn't I tell you!' (in contrast with nem mondtam meg "not told verbal-prefix" 'Did I not tell you?') and CHINESE below. BURMESE: ma - - phû 'not'; maθwâbûtâ 'Did he not go.' (cp. maθwâbu 'He didn't go.' and θwâdê 'He went.') (Cornyn 1944, 13-14)

CHINESE: bu 'not'; nǐi bu pàh láohǔu maa 'Aren't you afraid of tigers? (of course, you are or should be)' (Chao 1965, 1075; Chao says: "When the question contains a negative adverb, it is a rhetorical question suggesting a reply to the contrary." cp. also Elliot 1965, 93, 95, 108, 109)

GERMAN: nicht 'not'; Sind Sie nicht ein Sozialist? 'Aren't you a socialist?'

GUJARATI: -ne 'not'; questions involving -ne are glossed 'Is the preceding so?' with the suggested answer 'Yes, it is so.' (Cardona 1964, 149)

HUNGARIAN: nem 'not'; nem örülsz 'Aren't you glad?'

KURKU: "la? usually in negative interrogations, with the expectation of an affirmative reply i.e. the denial of the negation" (Drake 1903, 124)

LATVIAN: "A negative verb in an interrogative sentence generally indicates that the speaker expects an affirmative answer." e.g. vai tu negribi jāt 'Will you not ride?' jā es gribu 'Yes, I will.' (Lazdina 1966, 88)

SCOTTISH GAELIC: from examples and comments in Carmody 1945, 215f it seems that negative questions expect affirmative answer.

A theory of negative questions would have to explain the following facts: that, in all languages, presumably, a sentence type which is a question and which is negative has the meaning of a yes-no question expressing also that the answer ought to be affirmative although he has doubts that is will be such.

Since negative questions are yes-no questions, it follows that their deep structure should contain a request and a disjunctive statement. The question is what else should it contain. According to Stockwell 1968, 639f, negative questions are to be derived from an affirmative

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(Footnote 17 continued)

ILONGOT: gawan be:ta qunqay ma maitedu "not question coming the teacher" 'Isn't the teacher coming?' (Michelle Rosaldo, p.c.)

Some additional cases have been found, where an element formally identical with a negator appears in questions without the usual semantic effect. This is the case for AGTA hud. Healey (1960, 91f) declares hud to be a question indicator as well as a negator. It is a "question indicator" in ittá hud ya danum "there-is not ya water" 'Is there any water?' (but for analogous examples 'There is no water, is there?' -- type glosses are given) and it is a negator in ittá hud dandanum "There-is not plural-water" 'There is not a drop of water.' The same is true for JAQURU {-ʃi}: it is described as having both the function of negator and that of a question particle (Hardmann 1960, 100f). In order to decide whether these cases constitute counterexamples to the generalization that negative questions expect affirmative answers, one would have to know whether there is anything peculiar about the distribution of these elements in questions as compared with the expected distribution of a negator. If it turns out that these elements are distributed as negators should in questions, then these questions are counterexamples. If they have some distributional peculiarity, then they could be regarded as question particles (and one would also expect to find "genuine" negative questions in the language). Whereas I have no decisive evidence of this sort for AGTA and JAQURU, it may be pointed out that homophonous or historically related negators and question particles do exist. It was mentioned above that CHINESE ma, the question particle, apparently evolved from a negator. Wehr (1953) posits the opposite course of development for ARABIC mū, a negator in today's language, believed to be derived from mū 'what?' via rhetorical questions where mū was used expecting negative answers. Although it may be coincidental, compare also the similarity between BURIAT disjunctive connective-and-question particle gy and negative suffix gyí and the homonymy of na in BENGALI, both meaning 'not' and 'or'.

statement which has in its adverbial node embedded an alternative question; i.e. Didn't it rain? comes from It rained, with Did it rain or didn't it? embedded in it; and a subsequent deletion rule deletes both copies of the affirmative sentences. The affirmative statement in the underlying structure is presumably to account for the fact that the questioner thinks the answer should be affirmative. According to the Stockwell grammar, the same underlying structure would serve for negative questions and tag questions with affirmative main sentences to be derived, since they claim that they are synonymous, e.g. John jumped, didn't he? and Didn't John jump? This claim about synonymy, however, appears to be false. John jumped, didn't he? would be asked by a person who thinks John jumped or ought to have jumped. Didn't John jump? however, would be asked by a speaker who thinks John ought to have jumped but there is something that makes him think he did not, in fact.[18] Thus, the fact that the Stockwell grammar derives both tag questions with affirmative statement and negative questions from the same underlying structure makes at least one of these two derivations suspicious. Since, however, we have already rejected the proposal that tag questions should be derived from this structure, we could accept their proposal about deriving negative questions without making false claims about synonymy.

There is, however, an alternative proposal which has the advantage of relating negative questions to some other sentence types. The drawback of this solution is that it requires a weaker linguistic theory within which transformations are allowed to change meaning.[19] The idea is that negative questions be derived from alternative questions by simply deleting the affirmative part, just as affirmative questions are derived from

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[18] F.W. Householder helped me see this point.

[19] For independent motivation of such a theory, see Chomsky 1969, Partee 1970.

alternative questions by deletion of the negative part. I.e. both Was it lightning? and Wasn't it lightning? would be derived from Was it lightning or wasn't it lightning? Beside the problem of how to motivate these deletion rules which was discussed before, there is also another question. Whereas the affirmative question is synonymous with the alternative one, the negative question is not and the question is how the special meaning of the negative questions is to be accounted for. The claim is that a semantic interpretation rule working on the surface structure of a negative question by itself would automatically yield the right "reading": the fact that the question is a negative one implies that the speaker presupposes that the affirmative alternative would be true. In its more general form, the claim is that negation always presupposes contradiction to an affirmative statement.[20]

Evidence for this general claim is provided by the fact that negative statements such as You are not going. and imperatives such as Don't go! imply, at least in some context, some reference to an affirmative statement (such as Although you should be. and I know you would be inclined to, respectively). Thus, the fact that Didn't you go? implies I thought you would. would be a simple corollary of this fact about negative sentence in general.

It should be noted that negative sentences are not the only ones which imply a contradiction to the opposite alternative. Emphatic affirmative sentences achieve the same. Notice the following parallelism:

You are not going. (in one "reading") implies Although you should be.
You are going. (in one "reading") implies Although you shouldn't be.
Don't go! implies Although I know you feel inclined to.
Go! implies Although I know you do not feel inclined to.
Aren't you going? implies I think you should be.

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[20] A discussion with Elizabeth Traugott of these matters was very helpful. For this claim, see also Seiler 1952, 80.

Are you going? implies I think you shouldn't be.

On the other hand, non-emphatic affirmative sentences such as You are going., Go! and Are you going? do not imply any reference to the alternative possibility. The same phenomenon is shown by the fact that negative and emphatic sentences are, but non-emphatic affirmative sentences are not, appropriate discourse-opening ones. These observations, along with the ones made in 2.4.2. about the relationship of interrogation, negation and emphasis, all argue for the assumption that yes-no-interrogative, emphatic, and negative constructions all have a contrastive X NOT-X type underlying structure.[21]

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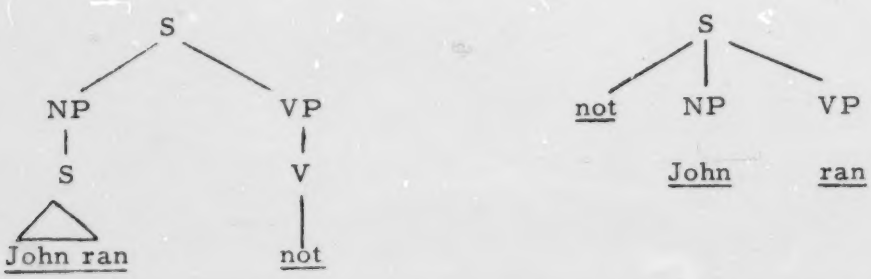
[21] A deep structure which seems intuitively to correspond to the idea that negative sentences somehow presuppose affirmative ones was proposed by McCawley 1970, 1-2, where he claims that negative sentences derive from a structure like the following:



This deep structure finds direct reflection in sentences of STANDARD ENGLISH such as It is not the case that it rains. and sentences of NEGRO ENGLISH of New York City such as It ain't no cat can't get in no coop. (Labov 1970)

5. Questions and answers are in a class-to-member relationship.

5.1 What is meant by the principle. What is meant by "class-to-member" relationship is that the answer is a member of the class of sentences its question represents.[1]

Some evidence for the usefulness of this principle is indicated by the fact that certain kinds of answers, to both binary choice and wh questions, that are felt to be semantically unsatisfactory by speakers of the language are in fact branded as unacceptable by this principle. Moreover, it seems that even degrees of semantic inadequacy of answers as felt by the speaker correspond to the degrees to which answers fall short of this requirement.

Some such pseudo-answers do share assumptions with their questions, but they fail to restrict the set of choices offered. Some of these just restate that set, e.g.:

Who did it ? Someone did it. or

Did you see John? I either saw John or I didn't. (making no choice)

Perhaps. / I don't know. (making no choice and pleading ignorance)

Yes and no. (making a compatibility claim; cp. Strawson 1952, 17f)

Another group of answers failing to be more specific even enlarge the set of choices e.g. Who did you see? What I saw was either a person or a piece of furniture.; Did John do it? Someone did it. Other pseudo-answers fail not only to restrict the choices offered but also to share assumptions such as Who drank the milk? No one drank it. or Have you seen Mike's pocketnife? Mike has no pocketknife. or such as answers

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[1] For some discussion of what is a proper answer, see Katz and Postal 1964, 85, 90f, 94f, 113ff; Elliot 1965, 101ff; Langendoen 1969, 125; Steinmann 1959; Katz 1968; Langacker 1969, ch. III; Horn 1969, 98f; Chomsky 1969; Pope 1970; Lang 1970, 195ff; Baker ch. III; Fillmore 1969, 220f; Jespersen 1924, 219, 292, 295; Churchill 1970. That Sanders claims that answers are in a member-to-class relationship with their questions is clear from the fact that he explains question-answer order by the genus-before-species order rule (1967, 154).

expressing lack of interest (Don't bother me.) These answers that fail to share assumptions with their questions are felt to be even more frustrating than the ones mentioned above and this difference is paralleled by the fact that whereas the above-mentioned answers are included but not properly included in their questions, the scope of these does not even overlap with that of their questions.

In the light of some other deviant answers, it seems that the requirement for proper answers should be more restricted. If all that there is to it were that answers have to be more specific than their questions, then answers in the following discourses would be judged adequate:
Who did you see? I saw someone last night.
Did you see John? I either saw John in the garden, or I didn't.
In fact, these are inadequate answers in spite of the fact that they manifest subclasses of the classes referred to in the question. This is because the additional specification is not effected with respect to the category that is requested to be made more specific. Thus, a more precise formulation of the principle is that member-to-class relationship is required for the queried category as referred to in the answers, compared with its mention in the question; and, otherwise, contents of questions and answers must be identical.

In the face of some additional unsatisfactory answers, even this modified version of the requirement seems not restrictive enough. Consider the following discourses: Who did it? A girl did it.
Did he go home, or to his office, or to his sister's place? He either went home or to his sister's place. For some speakers, at least, such answers are unsatisfactory[2]; at any rate, they are certainly less satisfactory to perhaps everybody's taste than the respective Jean did it. and He went home. Thus the requirement

[2] Professor Householder called my attention to the unsatisfactoriness of such answers to wh questions.

that answers should refer to specific members of the classes may have to be added.

The principle seems useful not only in excluding answers as inadequate that are felt to be such, but also in characterizing semantically satisfactory answers as adequate ones. Some simple examples can be given for such answers to ENGLISH wh questions:

Who did you see? I saw John.

Where are you going? I am going for a walk.

While it is fairly easy to test the principle with respect to wh questions and their answers, it is less easy to do so for binary choice questions. This is because the class of choices offered in wh questions is always superficially manifested by a generic term (e.g. who? standing for x or y or z...) and thus testing the hypothesis is simply to compare the scope of this generic term with the corresponding constituent in the answer. There is no such generic term, however, for the two possibilties x and not-x to be subsumed under in the surface structure of binary choice questions: at best, the possibilities are enumerated (Did you or didn't you?) and often that isn't so, either (Did you go?).[3] Therefore, when in the following pages we are trying to test this principle for binary choice questions, what answers will have to be compared with is the abstract structure of their questions as we have understood them in the light of their surface shape and in the light of less direct evidence of various sorts as presented in this paper.

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[3] That the class of choices in wh questions is represented by an interrogative pronoun, but the class of choices in binary choice questions is represented by one of the two alternatives involved (e.g. Who did it? stands for X or y or z did it? and Did you do it? stands for Did you do it or did you not do it?) also shows that the relationship between the choices raised in the two types of questions is not the same. For wh questions, the choices are of equal status, whereas in binary choice questions one of the two, the negative, is perhaps "marked" as opposed to the affirmative which is then unmarked and thus able to stand for the other as well (just as man may stand for men and women etc.). For a proposal and some evidence for who being a reduced disjunctive set, see Langendoen 1969, 125).

In surveying adequate answers to binary choice questions in various languages, the hypothesized principle will be taken to have gained support if the abstract representation of such answers turns out to be included in the abstract representation of their questions as posited on independent grounds. If we find some semantic or syntactic types of standard answers whose underlying structure does not seem to be includable in the underlying structure of their question, this will count as counterevidence against the principle.

It should be noted that cross-linguistic evidence on this point, as on any other aspect of discourse structure, is difficult to glean from language descriptions and the general, let alone universal, validity of our conclusions is even more doubtful here than elsewhere.

5.2 Answers to affirmative questions. Affirmative questions, unless modified by special adverbs or special stress and intonation patterns, express no suggestion that one rather than the other of the two possibilities offered should be given as an answer. They are in this sense neutral.[4]

Answers to affirmative questions are either a/ an affirmative statement (or some part of it) that is identical with the question except that it is a declaration (Did you go? I went.); or a negative statement that is the negated declarative counterpart of the question (Did you go? I didn't.). b/ one of these affirmative or negative statements preceded by an affirmator such as no (henceforth referred to as negator, with

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[4] The only possible bit of counterevidence found is in Chao 1965 (1075) where he claims that affirmative questions in CHINESE imply "slight or considerable doubt" about an affirmative answer, as opposed to alternative questions which are completely neutral. Elliot 1965, 90, however, says that affirmative questions in CHINESE are neutral.

the term affirmator to cover both affirmator proper and negator) (Did you go? Yes, I did./ No, I didn't.) c/ an affirmator by itself (Did you go? Yes./No.)

Maybe all languages have a/. What languages differ on with respect to this type of answer is conditions on deletion and substitution. (Compare ENGLISH Did you eat? I didn't. with the lack of the possibility of such pro-verbial substitution in GERMAN and most other languages.)

Some languages do, others do not have answer types b/ and c/; but perhaps all that have either of these have the other as well.

In trying to test the hypothesis about the requirement of member-to-class relationship, the first thing to consider is that answers are statements, whereas questions are questions. If the hypothesis is true, then question structures must at some level be represented as containing statements. The performative hypothesis is consistent with this requirement in that the interrogative performative I ORDER YOU TO SAY includes the question performative I SAY TO YOU.

Since negative answers are possible answers to affirmative questions, the hypothesized principle is true only if the structure of affirmative questions includes not only an affirmative but also a negative statement. Since it was discussed above that there is all kinds of independent evidence to show that this assumption about an X OR NOT-X underlying component is necessary, the hypothesis is supported to this extent.

What about affirmators, such as yes and no? If these are parts of answers, and if the member-to-class requirement is to be true, then affirmators must also be present in question structures. While this suggestion will be taken up later in this study, some evidence will be presented here to show that affirmators themselves are in a genus-species relationship with the statements they accompany and thus even if they are not overtly represented in question structures, the fact that "they are there" is shown by their statements "being there". Observations

that make the assumption that yes and no are extraposed and abbreviated copies, or pronouns, of their statements are the following :
a/ yes and no when accompanying a statement is always semantically redundant and syntactically optional b/ yes and no may in some cases substitute their statements c/ perhaps in all languages (but see TIGRINYA, p. 124) these words ordinarily precede their statements, rather than following or interrupting them -- a fact which would be accounted for if affirmators were "pronouns" since then the same genus-before-species rule that orders pronouns before their noun phrases (cp. They prayed to Him, the Lord of the Universe. and *They prayed to the Lord of the Universe, Him.[5]) would order affirmators, too, before their statements.

5.3 Answers to alternative questions. Alternative questions, unless modified by special adverbs, stress, or intonation, are neutral questions.

Of the three types of answers listed as possible to affirmative questions, only one -- a base statement by itself -- is a possible answer to alternative questions: a base statement accompanied by an affirmator and an affirmator by itself are not.[6] E.g.:

Are you listening or aren't you listening? I am.
I am not.
*Yes, I am.
No, I am not.
*Yes.
*No.

[5] J.H. Greenberg called my attention to this kind of ordering of coreferential pronouns and noun phrases in ENGLISH.

[6] This point, as an unresolved problem, is pointed out in Stockwell et al. 1968, 643.

This point should be noted all the more since it throws considerable doubt on the "pronominal character" of the affirmators. If yes and no stood for an affirmative and a negative statement, the same way as ENGLISH he stands for male animate noun phrases, then alternative questions should be able to be answered by yes or no.

5.4 Answers to tag questions. Ultan (1969, 50f) made a study about the relationship between the affirmation value of the main sentence, the affirmation rule of the tag in tag questions, and the suggested answer. He concluded that at least for his sample of 27 languages (minus 2 dubious cases) the suggested answer has the affirmation value of the main sentence. In other words, of the two possibilities what is held to be likely is stated (and what is held unlikely is questioned).

Tag questions can be answered either by a statement, or by an affirmator plus a statement, or by an affirmator by itself, just as it is the case for affirmative questions. There are three observations, however, that can be made about the shape and distribution of the affirmators in contrast with those after affirmative questions.

a/ In some languages, the affirmator proper used to answer a negative tag question (i.e. one where the main sentence is negative) has a different shape from the one used to answer an affirmative or an alternative question affirmatively. Some of these languages are FRENCH (si, versus oui), GERMAN (doch, versus ja), and HUNGARIAN (de igen, versus igen). E.g. HUNGARIAN látod? igen 'Do you see it? Yes.'

látod, nem? de igen 'You see it, don't you? Yes.'

?látod, nem? igen

*látod? de igen

Of these special affirmators GERMAN doch, meaning also 'still' and HUNGARIAN de igen "but yes" are clearly adversative.

b/ In answers to tag questions, and most clearly in affirmative answers, some languages such as ENGLISH and HUNGARIAN have an additional set of affirmators that cannot be used in answers to neutral -- i.e. affirmative or alternative -- questions. In ENGLISH, for instance, besides You are going, aren't you? Yes, I am.

No, I am not.

You are going, are you? Yes, I am.

No, I am not.

there is also You are going, aren't you? (That's) right, I am.

You are not going, are you? (That's) right, I am not.

If we compare the affirmation values of such affirmators and the statements that they accompany, it turns out that these affirmators are distributed differently from the yes-no type. While the yes-no type affirmator is always in agreement with its statement in affirmation value, the right type is not necessarily.

c/ Compare now the case of TAGALOG with bisystemic ENGLISH. In TAGALOG (see Bowen 1965, 17, 25) there are altogether two affirmators, oo 'yes' and hindi 'no'. That is to say, in answers to questions such as 'Are you a Filipino?' or 'Are you a Filipino or not?' or 'Are you not a Filipino?' (or 'You are a Filipino, aren't you?'?) oo pairs with the affirmative statement 'I am.' and hindi pairs with the negative statement 'I am not.' E.g. hindi ba si Eddie ang guwapo? Oo, guwapo si Eddie. 'Isn't Eddie handsome? Yes, Eddie is handsome.' Consider, however, the following discourse, where the question is a negative tag question.

Q: hindi maganda ang damit, {ano / hindi ba}? "not pretty is dress {what" / not-question"}

'The dress isn't pretty, is it?'

A: (hindi), maganda "(no), pretty" 'Yes, it is pretty.'

oo, hindi maganda "yes, not pretty" 'No, it is not pretty.'

TAGALOG thus resembles ENGLISH in that in both languages there are

answers, where the affirmator and the statement do agree in affirmation value and there are answers where they do not. The two languages differ in that in ENGLISH, negative tag questions may be answered according to either of the two systems and that in TAGALOG negative tag questions must be answered according to the system where there is no agreement; furthermore, that in ENGLISH affirmators differ in shape depending on which system they belong to, whereas in TAGALOG they have the same shape.

What are the implications of these three observations concerning our understanding of what affirmators are, and, more generally, concerning the hypothesis of the class-to-member requirement? a/, b/, and c/ equally show that the answerer is, in the cases illustrated, aware of which answer the speaker suggests should be given and he taylors his answer in relation to that, rather than just making "objective" i.e. context-independent, statements. Our previous guess, therefore, that affirmators are a kind of pronominal abbreviations of their statements needs revision. Leaving alone the doch type affirmator referred to in a/, it now seems that there are two types of affirmators: one kind that is just a summary of the answerer's opinion per se, and the other which is the summary of how the answerer relates to the questioner's suggestion. The first kind, by definition, always agrees in affirmation value with the statement and it exists both in answering neutral and in answering prejudiced questions. The second kind does not necessarily agree in affirmation value with its statement. If the question is negative, then an affirmator word will pair with a negative statement and a negator with an affirmative statement. This second system exists, by definition, only in answers to prejudiced questions, i.e. where the speaker does make some suggestions.

The fact that the second system does exist -- i.e. that the speaker's

suggestion can be "agreed" or "disagreed with" (notice that affirmators that work according to the second system are optionally paraphrasable (or can be supplemented) by 'I agree', 'I disagree') is an additional argument for representing the speaker's suggestion by an underlying statement, since presumably only statements and not questions can be agreed or disagreed with.

It is interesting to notice that the two types of answers that we have distinguished appear to correspond to the two types of tags dfferentiated in 4.2. Our "first type" of answer corresponds to resumptive tags both in lexical material and also in that they have a structured correspondance with the affirmation value of their statements: resumptive tags are of opposite affirmation value and "resumptive answers" are of the same affirmation value as their statements. Our "second type" of answer corresponds to meta tags in lexical material [7] and also in that there is no structured relationship between their affirmation value and that of their statements.

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[7] Some examples of affirmators that are morphologically analysable as an existential or copulative verb or a verb of saying (plus something else) are the following:

AGTA: bakkan 'no' "it isn't" (Healey 1960, 90)

AMHARIC: yəlləm 'no' "there isn't", "It is not" (Obolensky et al. 1964, 14, Dawson 1960, 132)

GREEK (ANCIENT): u phēmi 'no' "I don't say"

CHINESE: bú shìr 'no' "not be"; bù hǎu 'no' "not-good" (Swadesh 1948, 14; cp. also Elliot 1965, 99)

KANNADA: illa 'no' "that which doesn't exist" (also "or", as BENGALI na!) (Bright 1958, 41; Bright et al. 1960, 133)

SWAHILI: hapana 'no' "is not" (also in UP-COUNTRY SWAHILI, Breton 1951, 26); ndeya 'yes', siya 'no' are copulative forms; cp. Closs 1967)

In AZERBAIJANI and in TURKISH the negative existential verb may serve as a negative answer (TURKISH yok, AZERBAIJANI yox).

		respective affirmation value of statement and tag:		
questions with resumptive tags:	You are going, aren't you?	+	−	values opposite
	You aren't going, are you?	−	+	
questions with meta tags:	You are going, right?	+	+	unstructured relationship between affirmation values for metatags
	You aren't going, right?	−	+	
resumptive answers:	(You are going, aren't you/ right?) Yes. I am.	+	+	values identical
	No, I am not.	−	−	
	(You aren't going, are you/ right?) Yes, I am.	+	+	
	No, I am not.	−	−	
meta answers:	(You are going, aren't you/ right?) Right, I am.	+	+	
	?That's not the case, I am not.	−	−	
	(You aren't going, are you/ right?) ?That's not the case, I am.	−	+	
	Right, I am not.	+	−	

structured relationship between affirmation values for resumptive tags

Since the two types of answers correspond to the two types of tags in distribution with respect to affirmation value and in lexical material, there is reason to include answer-type elements in the structure of questions, in order to account for tag questions and to this extent our findings about how tag questions are answered support the proper includability requirement.

As a comment on the correlation of tags and affirmators, it should be noted that alternative questions have neither tags nor single-affirmator answers.

There is little that can be said about the comparative cross-linguistic

distribution of metatags and meta answers. Both may be universally available, so that the resumptive systems would then be only "secondary" systems in those languages where they exist at all. Note that there is no cooccurrence restriction between the type of tag and type of answer used, as is obvious from the above chart.

It is interesting to note that the two types of tags and answers appear to exist for imperative tags and their answers as well, in ENGLISH and HUNGARIAN, e.g. Don't go, will you/all right? (?)

No, I won't.

Right, I won't.

Apparently binary choice interrogative and imperative structures are the only ones that can have tags[8] and that can have affirmator-type answers, which is an additional bit of evidence for the relationship of tags and affirmators, as well as of interest for the hypothesis that interrogative structures are at some abstract level imperative structures. (For a structural comparison of interrogative and imperative tags in ENGLISH, see Arbini 1969.)

5.5 Answers to negative questions. As was stated above, all negative questions that have been found described or exemplified in language descriptions consulted are prejudiced questions; and what is suggested to be the answer is the affirmative counterpart of what is in the question.

The composition of answers given to negative questions is the same as that of those given to affirmative questions: a statement by itself, or an affirmator by itself, or both; except that some languages lack an

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[8] Furthermore, tag questions with a statement part that involves a future verb and a second person subject may be synonymous with imperative tag constructions; e.g. You will do this, won't you? is synonymous, in one of its meanings, with Do this, will you?, just as their statement parts by themselves may also be synonymous.

affirmator as it will be exemplified below. As for the shape and distribution of affirmators used to answer negative questions, there are again a number of peculiarities that leap to the eye if one compares them with affirmators used to answer affirmative questions.

a/ difference in completeness of inventory. In HARARI and CHANA, there is an affirmator and a negator in answers to affirmative questions, but there is no proper affirmator (although there is a negator) in answers to negative questions, regardless whether this proper affirmator were to accompany a statement or to constitute an answer by itself (Leslau 1962). The affirmator used to answer affirmative questions doesn't seem to be used in answers to negative questions in GALLA either, but these data are to be checked. No language has been found, however, where the system is lopesided the other way, i.e. where the inventory of affirmators is complete in answers to negative questions but incomplete in answers to affirmative questions. This is perhaps parallelled by the preferred avoidance of the proper affirmator in answers to negative questions and to negative tag questions as a sole answer; cp. Did you go? Yes. but ?Didn't you go? Yes. and ?You didn't go, did you? Yes.

b/ difference in shape. In some languages, one or the other affirmator used to answer negative questions is different in shape from the one used in answers to affirmative questions. The affirmative proper is different in the following languages:

ARABIC (SYRIAN): ʔē, ʔēwa, naʕam versus mbala[9]
FRENCH: oui versus mais si
GERMAN: ja versus doch
HUNGARIAN: igen versus de igen
PERSIAN: bæle versus čera
SPANISH: si versus como(no)
TIGRINYA: ʾəwwa versus ʾəbba (both postposed! cp. Leslau 1962)

[9] mbala cannot be used to answer non-negative questions, but the other 'yes'-s may be used to answer a negative question (Cowell 1964, 536)

The negator is different in CHAHA: bə̈ versus ē

SODDO: yə̈llə̈ versus aw.

No language has been found, however, where there are four different affirmators, two to answer affirmative questions and two to answer negative questions.

For three of these languages, FRENCH, GERMAN, and HUNGARIAN, there is information available, as we have seen, to show that these special affirmators proper that are used in answers to negative questions are also used to answer negative tag questions. There is no information about how the other languages listed here answer negative tag questions.

c/ difference in the distributional correspondance between two sets of affirmators that are identical in shape. Languages that have only two affirmators both used in answers to affirmative and to negative questions may still differ from each other by how these affirmators are distributed with respect to the affirmation value of the sentence that they cooccúr with. Compare ENGLISH with AMHARIC:

ENGLISH: Did you go? Yes, I did.
No, I didn't.
Didn't you go? Yes, I did.
No, I didn't.

AMHARIC: 'Does he know how to drive a car?' awon, he knows.
yə̈llə̈m, he doesn't know.
'Don't you know how to drive a car?' yə̈llə̈m, I know.
awon, I don't know.

(Leslau 1962)

The distributional difference is that in ENGLISH, yes always occurs with an affirmative sentence, and no always occurs with a negative sentence, regardless of the kind of answer, but in AMHARIC awon cooccurs with an affirmative statement in answer to an afirmative question but it co-occurs with a negative statement in answer to a negative question; and

the reverse holds true for yällăm. This is of course exactly the same phenomenon that we have observed concerning answers given to negative tag questions in TAGALOG. Whereas there is evidence (pp. 119f above) that this type of answering is restricted to negative tag questions in TAGALOG as opposed to any other question including negative questions, there is no information for AMHARIC, or the other languages to be listed below, about how negative tag questions are answered. Some other languages that are similar to AMHARIC in this respect are listed in the footnote.[10]

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[10] CHINESE: 'Are you coming with me?' shìde, I am.
bùshìde, I am not.
'Aren't you coming with me?' bùshìde, I am.
shìde, I am not. (Elliot 1965, 102)

ENGA: To affirmative questions, kini is 'yes' and daá is 'no'. To negative questions, kini cooccurs with a negative answer. (Lang 1970, 207, 226. He also points out that this system is nearly universal in New Guinea languages.)

ENGLISH (substandard): (Do you have bananas? Yes, we have bananas.)
Do you have no bananas? Yes, we have no bananas.
(Martin 1962, 364)

FANTE: 'Is Kodwo sick?' nyew, he is sick.
oho, he isn't sick.
'Will you not go?' oho, I will.
nyew, I will not. (Balmer and Grant 1929, 70)

HARARI: 'Will you come tomorrow?' ĩ, I will come.
mẽ, I will not come.
'Will you not come tomorrow?' (Ø), I will come.
ĩ, I will not come. (Leslau 1962)

HAUSA: 'Did Mamman come to your house at night?'
ĩ, they came about nine o'clock. (Hodge 1963, 32)
'Is your son around?' ā'à ('no') I sent him to the market.' (Hodge 1963, 38)
'Haven't they come to your house yet?' ā'ầ ('yes') they have come and fixed it.
'You didn't come to the meeting yesterday?' ĩ, we didn't come. (Hodge 1963, 75)

This "reverse" use of affirmators is generally described as hard to learn and rather to be avoided in speech by native speakers of other languages. It also appears vulnerable to foreign influence. In SWAHILI,

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(Footnote 10 continued)

ILONGOT: 'Is the teacher Philippine?' quun, she is Philippine.
qiri / qawan } she isn't Philippine.
'The dress isn't pretty, is it?' qiri, it is.
quun, it isn't.

JAPANESE: 'Had that man much land?' hai, he had much.
iie, he didn't.
'Haven't you a dog?' iie, I have.
hai, I have not. (Vaccari and (Vaccari 1962, 44) (cp. also Kuno 1970)

KOREAN: 'Is there a boat in the picture?' nēy, there is.
aní, there isn't.
'Isn't there a boat in the picture?' aní, there is.
nēy, there isn't.
(Martin and Lee 1969, 32)

RUSSIAN: on n'e tam? n'et, on tam "he not there? not, he there"
'Isn't he there? Yes, he is there.' (Tesnière 1959, 213)

SANGO: (no example; Professor Samarin mentioned to me that this language answers negative questions as JAPANESE does.)

SOMALI: ha 'it is correct' cooccurs with negative answers and maya 'it is incorrect' cooccurs with affirmative answers to negative questions. (Bell 1953, 110f)

SWAHILI: 'Is tax a "must"?' ndigo, tax is a "must".
siyo, tax is not a "must".
'Is tax not essential?' siyo, it is essential.
ndigo, it is not essential.
(Closs 1967, 113)

SODDO: 'Will you come tomorrow?' ĭ, I will.
yällä, I will not.
'Will you not come tomorrow?' yällä, I will.
aw, I won't. (Leslau 1962)

THAI: 'Does this train go to Udorn?' krup ('Yes.')
plow krup ('No.')
'Yesterday you didn't go to the Sport Club, did you?'
pỹ krup ("went krup" 'Yes.')
krup ('No.') (Campbell and Shaweevongse 1957, 166f) (cp. also Chaiyaratana 1961, 112ff)

TONGAN: io 'Yes.' (used to answer greetings)
'Didn't you go?' 'io, I didn't' (Churchward 1953, 79of)

In addition, YORUBA is said to have such distribution of affirmators (Ayọ Bamgbọṣe, p.c.).

there are also ARABIC loan-affirmators (naam and la) and these are used according to the ARABIC (i.e. "normal") pattern (Perrott 1965, 75; Stevick et al. 1963, 22). In AMHARIC, yälläm may also be used according to the "normal" distribution and it is suspected by Leslau (1962) that this is due to ENGLISH influence. For JAPANESE (Martin 1962, 364) and for KOREAN (Martin et al. 1969, 36) it is pointed out that if negative questions are meant as polite requests, then the "normal" distribution of affirmators is used.

d/ presence of two distributional systems with members different also in shape Although only the handful of languages listed above have been found where the only affirmators used in answers to negative questions are ones that are different in shape from the other set (b/) or where the affirmators do not show agreement in affirmation value with their statements (c/), it seems that there are many languages where, in addition to the yes-no type set, there is also a second, formally quite different, set that can also be used in answers to negative questions and which do not show agreement in affirmation value with their statements. E.g. ENGLISH: (that is) right; e.g. Didn't you go? No, I didn't.

(That's right), I didn't.

HUNGARIAN: úgy van "so it-is"; e.g. nem mentél? nem, nem mentem

úgy van, nem mentem

'Didn't you go? No, I didn't.'

This is again the same thing as what we have seen in the case of negative tag questions. The difference is, however, that whereas for negative tag questions we were able to say that what the answerer agrees or disagrees with is the questioner's guess or suggestion, this is not the right conclusion for negative questions, since negative questions imply that the questioner expects an affirmative answer. Since in negative tag questions, both the questioner's suggested answer and the form of the question are

negative, whereas for negative questions the expectation is affirmative and the form of the question is negative, the generalization that would cover both cases would be that the answerer reacts to -- i.e. agrees or disagrees with -- the form of the question (rather than the questioner's suggestion).

The two systems[11] are distributed in the following way. For neutral i.e. (unmodified) affirmative and alternative questions, by definition, only the pronominal type exists. For prejudiced questions, some languages have the meta-system only (such as AMHARIC), others have the resumptive and the meta answer system (such as ENGLISH). No language has yet been found with the resumptive type only. The meta answer system is thus perhaps a universal.

The conflict between the two systems, in languages that have both, is most conspicuous in answering negative questions (and perhaps negative tag questions) affirmatively. (In answering prejudiced affirmative questions according to the meta-system does not lead to conflict of affirmation values: agreement pairs with the affirmative statement and disagreement with the negative statement.) The manifestation of structures paraphrasable as Yes, you are right, I don't. is, as we have seen above, generally complicated and irregular in various languages: some have no affirmator in these answers to accompany the statement, or as a sole answer, others have special shapes for affirmators in such contexts. Apparently, a structure paraphrasable as No, you are wrong, I do. is "easier", or less frequent, since expressions of this structure turn out to be less irregular: no evidence has been found for the lack of affirmator or for special shapes of the affirmator in this context.

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[11] Besides the criterion of what kind of question do they answer, affirmators may differ in terms of other criteria as well, such as whether they respond to a vocative or to a real question (cp. JAMAICAN CREOLE, Bailey 1966, 59 or HAUSA, Robinson 1930, 79) or by formality of style (cp. IRAQI ARABIC, Erwin 1963, 327ff) or by degree of emphasis or agreement/disagreement as C.A. Ferguson has pointed out is the case for SYRIAN ARABIC (for forms, cp. Cowell 1964, 536).

Since no proposal has been accepted in this paper about the abstract structure of negative questions, the hypothesis about the relation of answers and question structures is not testable. Rather, we will now take the opposite course of argument. Let us assume for a moment that it is true that answers are in a member-to-class relationship with their questions and let us see what the implications of this principle would be for the abstract structure of negative questions. It seems that there are two features of negative question structure that can be argued for from the point of view of their answers. First, as it was pointed out above, the structure of negative questions must include a negative statement. Unless we want to assume that answer-formation takes place not on the "deepest" level of structural representation, this implies that negative questions should "start out" with a structure that includes a negative statement. But then how do we account for the semantics of negative questions -- that is to say, that they express the speaker's suggestion that the affirmative case is true? This could be done if negative statements all were interpreted as somehow implying the speaker's resentment of the lack of truth of the affirmative version -- a conclusion which has some support in the semantics of negative statements in general. But then how is the semantics of negative tag questions to be explained where the questioner's suggestion is negative? All of these questions are left unanswered here.

The second point is that the structure of negative questions should include elements from which the metatype answers are derivable. Besides meta answers to negative questions and negative tag questions, there are two more bits of evidence to show the existence of an IT IS TRUE type component in the structure of all questions. One is the existence of metatags. The other is paraphrase relationships for all kinds of questions, such as the following in ENGLISH:

alternative questions: Are you going or are you not going?

Is it true or is it not true that you are (not) going?

You are going?

affirmative questions: Are you going?

Is it true that you are (not) going?

negative questions: Aren't you going?

Isn't it true that you are going?

Are you going, or isn't it true that you are going?

Conclusions

Some of the more important conclusions that we can draw from the above study are the following:

1. Yes-no questions have a number of semantic and syntactic properties which appear explainable by an underlying structure which includes a disjunction of an affirmative sentence and its negative counterpart. The rule mechanism, however, that appears to be needed to derive yes-no questions from such a base requires the presence of transformational rules which are unique in this theory.

2. There is evidence to show that this underlying X OR NOT-X structure is subordinated to a sentence paraphrasable as I ASK YOU TO TELL ME. There is also some support for an alternative theory of question marking whose distinctive characteristics are that it is a discourse-marking theory and it does not assume an underlying OR. In this case, there are reasons to suggest that declarative OR-s should have a conditional base which is thus different from that of interrogative OR-s.

3. Standard answers of various kinds of yes-no questions can be shown to be in a member-to-class relationship with their questions with respect to their above-defined underlying structure.

4. There is some evidence to show that the underlying structure of tag questions differs from the underlying structure of neutral yes-no questions in that it contains an additional copy of the suggested answer.

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